



Community management of natural resources in Africa

Impacts, experiences and future directions

Edited by Dilys Roe, Fred Nelson and Chris Sandbrook



Community management of natural resources in Africa

Impacts, experiences and future directions

Edited by Dilys Roe, Fred Nelson and Chris Sandbrook

First published by the International Institute for Environment and Development (UK)
in 2009

Copyright © International Institute for Environment and Development (IIED)
All rights reserved

ISBN: 978-1-84369-755-8 ISSN: 1605-1017

A catalogue record of this book is available from the British Library

Copies of this report can be purchased from Earthprint Ltd

Email: orders@earthprint.co.uk

Website: www.earthprint.com

Or the IIED website: www.iied.org

To contact the editors please write to:

Dilys Roe, Fred Nelson and Chris Sandbrook

International Institute for Environment and Development, 3 Endsleigh Street,
London WC1H 0DD, UK.

Tel: +44 (0)20 7388 2117

Fax: +44 (0)20 7388 2826

Email: dilys.roe@iied.org, fnelson@habari.co.tz and csandbrook@yahoo.co.uk

Citation: Roe D., Nelson, F., Sandbrook, C. (eds.) 2009. Community management
of natural resources in Africa: Impacts, experiences and future directions, Natural
Resource Issues No. 18, International Institute for Environment and Development,
London, UK.

Design: Eileen Higgins, email: eileen@eh-design.co.uk

Cover photo: Headline rock-art in the Game Pass Shelter, Kamberg, Drakensberg,
South Africa, Kwazulu-Natal, by McPHOTO / Still Pictures

Printed by: Park Communications, UK on 100% recycled paper using vegetable oil
based ink

Contents

Acronyms	ii
Acknowledgements	v
Executive Summary	vii
1. Introduction	1
2. The origins and evolution of community-based natural resource management in Africa	5
3. Community involvement in natural resources management in Africa – regional overviews	13
3.1 Introduction: Different understandings of, and approaches to, CBNRM in different regions	13
3.2 Central Africa	15
3.3 East Africa	26
3.4 Southern Africa	34
3.5 West Africa	40
3.6 Summary	49
4. What has CBNRM achieved in Africa? The ‘3Es’ – empowerment, economics, environment	55
4.1 Empowerment	55
4.2 Economics	64
4.3 Environment	81
5 CBNRM as a mechanism for addressing global environmental challenges	95
6. CBNRM in Africa – opportunities and challenges	105
7 Where next? A policy road map for CBNRM across Africa	121
References	131
Annex 1: The policy and legal framework for CBNRM in Africa	155
Annex 2: Formal CBNRM provisions in Africa	167
Annex 3: The scale of PAs and communally managed areas in African countries	180
Annex references	183

Acronyms

AA	Authorized Association
AALS	Affirmative Action Loan Scheme
ACODEP	Support to Decentralised Collectives for Participatory Development
ACPN-IM	L'Action Communautaire pour la Protection de la Nature Itombwe Mwenga
ADMADE	Administrative Management and Design for Game Management Areas
AfD	Agence Française de Développement
A/R	Afforestation / Reforestation
AVIGREF	Villagers' Association for the Management of Wildlife Reserves
AWF	African Wildlife Foundation
BINGO	Large multi-national conservation and development NGO
BMU	Beach Management Units
CAFT	Coopérative Agro Forestière de la Trinationale
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CAR	Central African Republic
CARPE	Central African Regional Program for the Environment
CASS	Centre for Applied Social Sciences
CBD	Convention on Biological Diversity
CBFF	Congo Basin Forest Fund
CBFM	Community Based Forest Management
CBFP	Congo Basin Forest Partnership
CBNRM	Community Based Natural Resource Management
CBNRZ	Community Based Natural Resource Zone
CBO	Community Based Organisation
CCA	Community Conserved Areas
CDM	Clean Development Mechanism
CDT	Community Development Trust
CENAGREF	National Centre for Wildlife Management
CFM	Collaborative Forest Management
CFR	Community Forest Reserve
CHA	Controlled Hunting Area
CI	Conservation International
CIRAD	Centre de coopération internationale en recherche agronomique pour le développement
COBA	Communautés de Bases
COMIFAC	Commission for the Forests of Central Africa
CPA	Communal Property Association
CPAI	Community Protected Areas Initiative
CR	Communités Rurales
CREMA	Community Resource Management Area
DBR	Dja Biosphere Reserve
DFID	Department for International Development
DGCID	Direction Générale de la Coopération Internationale et Développement
DPCEP	Dja Periphery Community Engagement Project
DRC	Democratic Republic of the Congo
ECI	Environmental Change Institute
ECOFAC	Conservation et Utilisation Rationnelle des Ecosystemes Forestiers d'Afrique Centrale
ECOPAS	Ecosystemes protégés en Afrique Soudano-Sahélienne

ECOWAS	Economic Community of West African States
EEF	State department of Water and Forests
EU	European Union
FAO	Food and Agricultural Organisation
FCFA	Central African Franc
FFEM	Fonds Francais pour l'Environnement Mondial
FRAME	Natural Resource Management Communities
GCF	Gestion Contractualisée des Forêts
GDP	Gross Domestic Product
GDRN	Sustainable Natural Resource Management
GEF	Global Environment Fund
GELOSE	Gestion Locale Sécurisée
GIE	Groupement d'Intérêt Economique
GMA	Game Management Area
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HuGo	Human Gorilla Conflict Resolution Programme
HWC	Human Wildlife Conflict
ICDP	Integrated Conservation and Development Project
IED	International Institute for Environment and Development
IGF	International Foundation for the Conservation of Wildlife
IMCCZ	Itombwe Massif Community Conserved Zone
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation
IUCN-ROSA	IUCN Regional Office for Southern Africa
KNP	Kruger National Park
KWS	Kenya Wildlife Service
LIFE	Living in a Finite Environment
LIRDP	Luangwa Integrated Resources Development Programme
MA	Millennium Ecosystem Assessment
MEA	Multilateral Environmental Agreement
MEFCPT	Ministry of Waters, Forests, Hunting, Fishing, and the Environment
MFA	Ministry of Foreign Affairs
MINEF	Ministry of Environment and Forests
MNRT	Ministry of Natural Resources and Tourism
NACSO	Namibia Association of Community Based Natural Resource Management Support Organisations
NCRC	Nature Conservation Research Centre
NDP	National Development Plan
NEF	Near East Foundation
NEAP	National Environmental Action Plan
NGO	Non-Governmental Organisation
NP	National Park
NPWS	National Parks and Wildlife Service
NTFP	Non-Timber Forest Products
NRM	Natural Resource Management
NRMP	Natural Resources Management Project
OECD	Organisation for Economic Cooperation and Development
PA	Protected Area
PAC	Problem Animal Control
PEAP	Poverty Eradication Action Plan

PES	Payments for Ecosystem Services
PFM	Participatory Forest Management
PNGT	Programme National de Gestion des Terroirs
PNGTER	Rural Land Management and Community Infrastructure Development project
PoW	Programme of Work
PROGEPP	Projet Gestion des Ecosystèmes Périphériques au Parc National Nouabalé-Ndoki
RAF	Reorganisation Agraire et Fonciere
RDC	Rural District Council
RéCoPriBa	La Réserve Communautaire des Primates de Bakumbule
REDD	Reduced Emissions from Deforestation and Degradation
RENGYIT	La Réserve communautaire Ngira'Yitu
ROC	Republic of Congo
SACOLA	Sabyinyo Community Lodge Association
SANParks	South Africa National Parks
SASUSG	Southern Africa Sustainable Use Specialist Group
SIDA	Swedish International Development Cooperation Agency
SLG	Local Management Agency
SODEFOR	Societe de Developpement des Forets en Cote d'Ivoire
SWAC	Sahel and West Africa Club
TANAPA	Tanzania National Parks
TESFA	Tourism in Ethiopia for Sustainable Future Alternatives
TGLP	Tribal Grazing Land Policy
TNRF	Tanzania Natural Resource Forum
TZS	Tanzania Shillings
UGADEC	Union of Associations for Gorilla Conservation and Community Development in eastern DRC
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
USAID	United States Agency for International Development
UWA	Uganda Wildlife Authority
VLFR	Village Land Forest Reserves
WCRS	Wildlife Conservation Revolving Fund
WCS	Wildlife Conservation Society
WDPA	World Database on Protected Areas
WILD	Wildlife Integration for Livelihood Diversification
WMA	Wildlife Management Area
WRI	World Resources Institute
WWF	World Wildlife Fund
SARPO	Southern Africa Regional Programme Office
ZAWA	Zambian Wildlife Authority
ZCV	Zones Cynégétiques Villageoises
ZICGC	Zones d'Intérêt Cynégétique à Gestion Communautaire
ZOVIC	Zones Villageoise d'Intérêt Cynégétique

Acknowledgements

Production of this report was a highly collaborative effort and a great many acknowledgements are due.

The report was commissioned and funded by the French Ministry of Foreign and European Affairs (Directorate General for International Cooperation and Development), the French Global Environment Facility through the Bio-Hub project, and the French Development Agency. Additional financial support was provided by IIED's Poverty and Conservation Learning Group initiative. CIRAD provided in-kind support through the contributions of Aurélie Binot to the West and Central Africa reviews and to the French translation.

This report was compiled by Dilys Roe (IIED), Fred Nelson (Maliasili Initiatives) and Chris Sandbrook (IIED/University of Cambridge) and is based on material collected through a series of desk-based reviews conducted by:

Central Africa: Lauren Coad (Environmental Change Institute, Oxford University) with Aurélie Binot (CIRAD)

East Africa: Tom Blomley (Acacia Consulting) with Fred Nelson and Chris Sandbrook

Southern Africa: Chris Sandbrook with Fred Nelson

West Africa: Lauren Coad with Aurélie Binot.

V

Additional chapters were provided by Ivan Bond (IIED), Russell Taylor (Bio-Hub and ex-WWF SARPO) and Marshall Murphree (CASS, University of Zimbabwe). Additional inputs on specific themes were provided by Muriel Cote (University of Cambridge) and Su Fei Tan (IIED).

Fred Nelson would like to acknowledge support from the Southern Africa Sustainable Use Specialist Group (SASUSG) project on 'Politics of Natural Resource Governance in East and Southern Africa', funded by SASUSG and the Sand County Foundation Bradley Fund for the Environment, which was the source of some of the ideas and material contributed to this report.

A huge number of people responded to our call for information and sent us relevant documentation including: Yves Hausser, Nesbert Samu, Jonathan Davies, Katherine Homewood, Isilda Nhantumbo, Reimund Kube, Christian Kull, Dale Lewis, Bruce Campbell, Joy Hecht, John Watkin, Helle Biseth, Brian Jones, Simon Anstey, Kate Studd, Ed Barrow, Rosaleen Duffy, Aaron Russell, Richard Hasler, Jacques Pollini, David McDermott Hughes, James Gruber, Stuart Marks, Sharon Pollard, Catherine Corson, Rudi Hahn, Wayne Lotter, Lehlohonolo Joe Phadima, Sarah Bologna, Tom Erdmann, James Mackinnon, Geoffroy Mauvais, Andrew Dunn, Ced Hesse, Ben Phalan, Olivier Hymas, Katherine Abernathy, Leslie Grey, Sophie Allebone-Webb.

A draft of this report was reviewed at a workshop in Harare by a peer review group consisting of: Dominique Dulieu (CIRAD); Lilian Goredema (WWF SARPO); Brian Jones (independent and NACSO); Sebastien Le Bel (CIRAD); George Mapuvire (CIRAD); Solomon Mombeshora (independent and University of Zimbabwe); Marshall Murphree (CASS); Nesbert Samu (ex-AWF) and Russell Taylor (ex-WWF SARPO).

Additional IIED staff involved in the conception, production and dissemination of this report include: Jamie Skinner, Khanh Tran-Thanh, Marie Jaecky and Nicole Kenton.

Executive summary

Across sub-Saharan Africa, natural resources remain central to rural people's livelihoods. Local norms and customs shape people's everyday forms of resource use. In contrast, the commercial uses of natural resources often remain highly centralized, conditioned by government policies of the colonial and post-colonial eras.

During the past several decades, there has been a shift from this predominantly centralized natural resource management towards more devolved models known very broadly as Community-Based Natural Resource Management (CBNRM). CBNRM models work to strengthen locally accountable institutions for natural resource use and management, enabling local groups of people to make better decisions about the use of land and resources. Because it involves the transfer of authority over natural resources to local communities, including of potentially valuable resources such as wildlife and timber, CBNRM is often about major institutional reforms and fundamental changes in power.

This pan-African review of the impacts, challenges, and future directions of CBNRM highlights the diverse range of forms of community involvement in natural resource management that have emerged across the continent during the past twenty years. CBNRM means different things to different actors in different places across sub-Saharan Africa. In much of western and central Africa, CBNRM is interpreted by government authorities, donor agencies, and NGOs as benefit-sharing or outreach between national parks and adjacent communities. In such instances communities are not empowered as authorized local resource managers but are involved principally as passive recipients of benefits controlled elsewhere. This form of outreach and benefit-sharing is also a characteristic of some protected area management in East African countries. In Southern Africa, CBNRM is most clearly defined in terms of the devolution of rights to make management decisions, and capture benefits, in relation to resources located on communal lands.

In all instances CBNRM involves some degree of co-management of resources between central authorities, local government, and local communities which share rights and responsibilities through diverse institutional arrangements. The various forms of CBNRM and their many locally-specific adaptations have greatly diversified approaches to natural resource governance in sub-Saharan Africa. Some notable **ecological, economic, and institutional achievements** have been documented.

- In Namibia communal land conservancies have proliferated, and now cover more than 14% of the country, involve over 200,000 people and earn US\$ 2.5 million per annum. Key wildlife resources have recovered and illegal use of wildlife has fallen.

- In Zimbabwe, CAMPFIRE generated \$20 million in revenues for local communities and district governments from 1989 to 2001, and also resulted in over 40,000 km² of communal land being managed for wildlife production. More importantly, some stakeholders have adapted to the current economic and political crises by forming new types of relationships to maintain wildlife production systems on communal land.
- In Tanzania, more than 3.6 million hectares of forests and woodlands are now managed as Village Land Forest Reserves, entirely under the control of locally elected village governments, or as co-managed forests between villages and either local or central government.
- In Kenya the development of community-level wildlife-based tourism ventures on communal and private land is making a major contribution to the total national conservation estate.
- In Cameroon, revisions to forestry law have enabled community associations and cooperatives to acquire the exclusive rights to manage and exploit up to 5,000 ha of customary forest, under a 15-year contract, resulting in the creation of over 100 new Community Forests.
- In Ghana, 200,000 hectares of forest have been demarcated under the Community Resource Management Area Policy of 2000. This gives participating communities full authority to control access and harvesting of resources within their management area. These changes are reducing the illegal activities in the areas under this type of management.

Through its potential to develop more sustainable natural resource governance regimes and to enhance local economic benefits, CBNRM is an important strategy for pursuing the goals of various multilateral environmental treaties, such as the Convention on Biological Diversity (CBD), the Convention to Combat Desertification (UNCCD) and the UN Framework Convention on Climate Change (UNFCCC). Existing community based organisations for the management of land and natural resources, for example, provide immediate opportunities for establishing pilot projects for Reduced Emissions from Deforestation and Degradation (REDD) to test innovative international finance mechanisms linked to the UNFCCC. The direct and indirect benefits created by CBNRM programmes and projects are also supporting progress, albeit slow, towards the Millennium Development Goals and are an important stimulus to more democratic forms of governance in sub-Saharan Africa.

Despite these notable local and national achievements, fundamental challenges to CBNRM remain. Overall, there remain relatively few cases of communities obtaining formal authority over lands and the natural resources found on those lands. Centralized control over natural resources persists despite the ubiquitous change in the rhetoric over land and resource management. In some cases,

trends point more towards central consolidation of the right to use and allocate valuable resources such as wildlife and timber.

Conflicts between local groups and other more powerful actors, including both state agencies and private sector investors, remain widespread across the sub-continent and are often intensifying. There are strong political economic incentives for political elites and central bureaucracies to consolidate their control over natural resources. Foreign donors and international NGOs spearheading CBNRM efforts are often poorly positioned, in a political sense, to address these challenges. Further conflicts arise from differences in perceived priority management objective – the most appropriate scale at which to manage from an ecological perspective rarely tallies with the most appropriate scale from a social or economic perspective.

Similar challenges apply at the local level, when local governance institutions are not downwardly accountable to the community and benefits are disproportionately captured by local elites. Tensions exist in some places between the development of locally accountable governance and traditional authorities. Often, CBNRM interventions are not accompanied by the type of long-term investments in capacity-building required to ensure broader participation and the accountability of local leaders to their community. The distribution of local benefits of CBNRM can also be influenced by the nature of benefits generated and how individuals are able to gain access to them. In some cases the principles that govern the distribution of benefits are built into CBNRM systems, as in Namibia. In different programmes, benefits are variously channeled through: employment; the sale of products; and through community construction projects in which the opportunities are more likely to be accessible to the well-skilled, wealthy and politically connected. Where CBNRM results in growing wildlife populations, it can be a victim of its own success by creating increased levels of human-wildlife conflict.

In order to address these challenges and develop more resilient and sustainable models for CBNRM in its diverse and variable African contexts, the report highlights a number of **key findings** based on experiences of CBNRM to date. These are:

CBNRM represents a spectrum of management from traditional to modern: There is a limit to the usefulness of distinguishing between ‘formal’, i.e. a state-supported, structured and funded programme, and ‘informal’ CBNRM, including ‘everyday use’. Whereas a legal framework may well be absent or only partially complete in the case of the former, local sanctions and traditional authority may effectively frame and bound CBNRM in the latter. Customary CBNRM regimes are generally high in internal legitimacy but low on external legitimacy while newer formal regimes tend to have higher external legitimacy but lower internal legitimacy. Moreover, informal CBNRM can function as well (or as badly) as any formal CBNRM arrangements.

Thus CBNRM can be viewed as a continuum of management regimes from traditional to modern, informal through to formal. They may co-exist and they should inform each other.

CBNRM should explicitly embrace development and conservation objectives: To date, CBNRM has been too focused on 'conservation' and a rather simplistic understanding of approaches to integrating conservation and development. Looking forward, it is important to deepen our understanding of CBNRM as a broad church of approaches that embrace wildlife conservation, protected area management, together with the broader land management and resource use issues related to agriculture, forestry and pastoralism. CBNRM must become a response as to how best to harness local resource exploitation to privilege local, but sustainable economic and social development.

Focus on demand driven collective management arrangements: The political challenges of devolving authority over valuable resources, should be given central attention. Local rights, authority and tenure over land and resources are central to CBNRM. Greater emphasis needs to be placed on supporting CBNRM in a 'demand-driven' fashion, rather than conventional centralized project models that attempt to implement CBNRM through central government agencies which may themselves be disinclined to give up authority over valuable resources. Emphasis should be placed on supporting local communities and civic organizations by building their capacity to engage in collective action that builds stronger political constituencies for resource governance reforms. More democratic forms of resource governance in sub-Saharan countries are largely contingent on such collective action.

Tenure and rights do not guarantee conventional conservation outcomes: Integrated and community-driven CBNRM will increase the likelihood of fiscal, ecological and institutional sustainability by granting communities more options. For example, market-based opportunities such as wildlife tourism might be exploited alongside economically important traditional agro-pastoralism and more diversified production systems. Tenure and rights to make informed choices are extremely important here, as is the knowledge and information that informs such decisions over land use. It should not be assumed that stronger tenure and improved rights will automatically lead to a 'conservation' outcome per se. It may, for example, lead to a small-scale irrigation scheme, if this is the most valued use of the land. However, underlying such a choice should be some measure of improved understanding of the institutional, economic and ecological issues that affect sustainability.

Improved indicators and better monitoring by communities are needed. A major deficiency of formal CBNRM projects is the absence or paucity of quantitative and/or qualitative data on their social, economic and environmental impacts. There is a real need for good monitoring protocols to be in place and for measurements against baselines established at the outset

of the project or programme. Part of the problem lies with poor or incomplete design and a lack of understanding by project implementers of what it is that really should be measured. Most projects are good at reporting on activities and to an extent the project deliverables. Lacking are more meaningful outcomes. Part of the solution lies with community engagement in monitoring project successes (and failures). Imparting skills and knowledge in establishing baselines and subsequent monitoring is empowering for communities and instructive for project implementers. Properly designed and structured projects will provide for quantitative and qualitative self-assessments of project impacts by communities themselves long after the project has departed.

Lessons and linkages between CBNRM and REDD: The lessons learned from CBNRM are a vital and rich resource for emerging payments for ecosystem services (PES) to draw on. For example, initiatives such as REDD and the voluntary carbon market have much to learn from CBNRM with respect to institutional design that creates effective local incentives for collective action under communal tenure arrangements. PES arrangements are not fundamentally different from CBNRM. The difference is the source of revenue and the way agreements are structured; PES approaches are basically a new way of financing natural resource management and conservation, but still rely on many of the same basic factors as CBNRM. In the communal lands where much of Africa's forests and woodlands lie, operationalising approaches such as REDD will necessarily involve community-based frameworks for forest management and conservation.

xi

A core conclusion of this report is that flourishing rural communities, that are sustainably managing their land and natural resources, will only be fostered only when CBNRM facilitation prioritizes local interests, agency, and capacity. **Stakeholder roles** need a fairly fundamental re-think in the way they support and engage with rural communities:

Donors: Long-term, flexible and responsive: The standard donor model of centralised support will need to be changed over time to one in which there is greater flexibility, opportunities for innovation and emphasis on the resource managers. Support should not be intrusive but rather responsive to local need. Facilitation techniques such as scenario planning, the promotion of shared learning and technical workshops are critical aid components and deserve strong financial backing.

Civil society: Balancing civic duty with implementation: Civil society faces the challenge of balancing the different expectations of national governments and communities. Local NGOs that are grounded in the social, economic and ecological reality of their environments should lead the development of CBNRM working from the bottom up. International NGOs have a role in promoting the skills, management experience, and convening power, of local NGOs and being a conduit or coordinator for financial support.

Governments: Key responsibilities and scarce resources: The functions of African government agencies are often constrained by weak processes of accountable governance, limited financial resources, and scarce capacity. Governments need to prioritise more support for implementation of existing laws and policies that often already promote devolved management and to work on harmonizing cross sectoral policy and legislation that affects the management of lands and natural resources.

The private sector: A significant but potentially risky ally: The private sector often has a vital role to play in the ideas and markets needed to make CBNRM work, but the other stakeholder roles are crucial in making this work. The commoditization of resources must be accompanied by strategies to ensure local interests have the skills and tools to ensure sustained harvests and market rates of compensation. Private sector actors engaged in CBNRM processes need to develop codes of conduct that facilitate, long-term local rights and penalize inappropriate behavior.

Experience with CBNRM over the last twenty years, has demonstrated a wide range of development pathways and opportunities tailored to local needs and conditions. It has shown that there are viable local alternatives to the centralized State control of resources and sets the stage for future devolution and diversification of management actions. It has also shown how partnerships with new actors, especially in the private sector, can improve cash flows to local communities giving them more autonomous development options. The CBNRM experience offers lessons for future processes of agrarian reform, as well as providing decentralized models of natural resource use that are of relevance in the context of adaptation to climate change, the fight against desertification and the conservation of bio-diversity.

Introduction

Background to this publication

The Bio-Hub initiative is a French government funded collaborative project of the French Agricultural Research Centre for International Development (CIRAD), the International Foundation for Conservation of Wildlife (IGF), the International Conservation Union (IUCN) Regional Office for Southern Africa (IUCN-ROSA) and the WWF Southern Africa Regional Programme Office (WWF SARPO). Bio-Hub is intended to create a platform for debate and dialogue on issues relating to Natural Resource Management (NRM) and Community-Based Natural Resource Management (CBNRM) with a view to influencing national and regional policy.

In March 2008 Bio-Hub organised a pan-African workshop 'Regards Croisés sur la Tapoa' in Niamey, Niger supported by CIRAD, Fonds Français pour l'Environnement Mondial (FFEM), French Ministry of Foreign Affairs, French Cooperation, Direction Générale de la Coopération Internationale et Développement (DgCID), European Union, IUCN and Ecosystèmes protégés en Afrique Soudano-Sahélienne (ECOPAS).

Intended primarily as an exchange of experiences between Southern and West African countries on CBNRM and NRM, the meeting grew to include Central and East Africa. The exchange included participatory management of Protected Areas (PAs), management of peripheral or buffer zone areas around PAs and CBNRM. Participants numbering 74 in all at Tapoa included researchers, practitioners and decision makers from 11 African countries and 5 European countries, ensuring an important exchange and interaction between Anglo- and Francophone countries within Africa.

This publication (which extends the regional coverage further to include East Africa) was commissioned from IIED as one of a number of follow-ups to the workshop.

This publication was requested to review, compare and contrast the different experiences of CBNRM in different regions of Africa in order to identify next steps on a 'policy road map' for CBNRM support agencies (donors, governments, NGOs). In contrast to the La Tapoa workshop, this publication was intended to expand the geographical coverage (to include East Africa) and to expand the focus from protected area buffer zones to cover a fuller range of collective land and natural resource management arrangements – namely, CBNRM.

Production of the publication and methodology limitations

This publication is based on a series of four regional reviews of CBNRM experience – covering Central, East, Southern and West Africa. The regional reviews were commissioned by IIED from regional experts. The reviewers were tasked with describing the different forms of local community involvement in NRM in each region and the factors affecting that – including the formal policy and institutional framework – as well as assessing the experience of CBNRM in terms of its social, environmental and economic impacts and achievements. A number of key themes were identified for exploration including: the role of the private sector, the role of donors, benefit sharing mechanisms, taxation mechanisms, CBNRM contributions to environmental improvements, and questions surrounding governance and policy reform.

Given severe constraints on the time and resources available, the regional reviews were based on an analysis of existing published information rather than primary research. The amount of information available for each region varied considerably and for some of the themes identified there was simply no information for some regions. In West and Central Africa in particular, reviewers found a dearth of written information – particularly any documentation of CBNRM impacts. The analysis in this publication, given its wide geographical scope, is thus constrained by the availability of information – and the representativeness of the often very context-specific reports and analyses that do exist.

2

Scope of this publication

We begin our analysis by describing how CBNRM has emerged and evolved in sub-Saharan Africa from the post-colonial era to the present day (Chapter 2). We recognise the centrality of natural resource use to local rural livelihoods and to ongoing political struggles, democratisation processes and broader governance changes in sub-Saharan Africa. In the global struggle to combat desertification, biodiversity loss and climate change we see new problems but similar challenges in terms of local governance, institutional adaptation and policy reform that CBNRM has struggled with in the last few decades. Getting these processes right is therefore not just critical to the long term success of CBNRM but is also part of the solution to these global challenges.

In Chapter 3 we provide an overview of CBNRM in the different regions of Africa, looking at the socio-political circumstances that have shaped its development, the institutional, policy and governance barriers and opportunities that it faces. We characterise CBNRM in each region according to its focus (types of resources), scope (protected areas, co-management arrangements, communal lands, etc) and approach (from passive community involvement to fully devolved authority to defined local organisations). We summarise the chapter by trying to identify the broad regional trends that emerge – although recognising the main characteristic of CBNRM across the regions is its diversity of form and approach.

In Chapter 4 we explore what the main experiences of CBNRM have been in terms of its empowerment, economic and environmental conservation impacts. We recognise that these three pillars are inherently inter-connected in both the theory and practice of CBNRM – outcomes in one arena often influencing, or being influenced by, outcomes in another.

In Chapter 5 we review the provisions of the three ‘Rio Conventions’ – on biodiversity, desertification and climate change – in terms of their implications for CBNRM and the opportunities for CBNRM experiences to contribute to some of the planned approaches to tackling these issues – particularly initiatives around Payments for Environmental Services (PES) and Reduced Emissions from Deforestation and Degradation (REDD).

In Chapter 6 Russell Taylor and Marshall Murphree reflect on the analysis and identify the major challenges to enhancing the success of CBNRM – as well as the opportunities. Particular emphasis is given to the need to move on from the techno-interventionist model which has dominated modern formal CBNRM to approaches which better fit African rural ecological and aspirational realities.

Finally, Chapter 7 – drafted by a Peer Review Group – seeks, on the basis of the analysis presented, to identify the policy steps needed if CBNRM is to fulfil its potential as a tool for improved local governance, rural development and resource conservation.

The origins and evolution of community-based natural resource management in Africa

Dilys Roe and Fred Nelson

Introduction

Community-based natural resource management (CBNRM) is, quite simply, (and as its name suggests) a term to describe the management of resources such as land, forests, wildlife and water by collective, local institutions for local benefit. CBNRM takes many different forms in different locations and different socio-political and bio-physical contexts. CBNRM may be based on commercial uses of natural resources, such as managing wildlife for local tourism or hunting enterprises, or it may be based on primarily subsistence uses of resources such as Non-Timber Forest Products (NTFP).

CBNRM is not a new phenomenon. Local groups of people have managed the land on which they live and the natural resources with which they are surrounded for millennia. Indigenous African communities often developed elaborate resource management systems (Fabricius, 2004), as have local communities throughout the world (Ostrom, 1990; Borrini-Feyerabend *et al.*, 2004). Today, local groups of pastoralists, farmers, and hunter-gatherers throughout Africa maintain many traditional systems of collective natural resource management which help to sustain the livelihoods and cultures of millions of people.

In the last few decades, there has been a growing awareness of the importance of collective natural resource management practices and institutions, and a recognition of the ways that historic forces have disrupted local people's ability to manage the lands and resources they depend upon. A wide range of policy makers and development and conservation practitioners have supported efforts to revive or bolster local natural resource management institutions in response to various economic, social, environmental and political pressures. Increasingly, debates over local communities' ability to manage their lands and natural resources are a part and parcel of broader struggles over political and economic power and authority in African countries. This chapter briefly reviews the reasons for this return to local level management and the way in which CBNRM has been initiated, evolved, and ultimately constrained over time and from place to place.

Colonialism, post colonialism and the rise of the CBNRM paradigm

Natural resource management policies in the colonial era were a central component of the project of extending European political control into rural African landscapes (Neumann, 1998). Colonisation by European powers in the

18th and 19th centuries, and the accompanying spread of conservation practice, did not bring with it this respect for traditional rights (Colchester, 1994). The model for nature conservation that was globally imposed by European nations was based on the American approach of pristine wild areas set aside for human enjoyment and fulfilment and was encouraged by concerns about the depletion of wildlife, timber, and other valuable resources (Adams, 2004). Ownership of land was gradually transferred from traditional local authority to the state domain in order to enable colonial authorities to exploit African lands, labour, and resources. Ultimately this shift in tenure became one of the key drivers of African independence movements seeking to recover entitlements to land and resources. Resources such as wildlife were progressively placed under central regulatory authority, with the rights of local people to utilize resources alienated over time.

The newly independent African nations that emerged starting in the late 1950's inherited colonially-derived political structures based on centralized control and exploitation (Mamdani, 1996). African states often maintained heavily centralized political economic institutions, as a result of socialist ideologies favouring state direction of the economy and ownership of valuable resources and the desire of elites in many emerging nations to build patronage networks essential for their own authority and political stability (Bates, 1981; Ake, 1996; van de Walle, 2001). As a result, for example, colonial land tenure institutions were generally retained, and in many instances central authority over lands and resources extended and local rights further alienated (Alden Wily, 2008).

6

In the 1980s, a community-based counter-narrative began to emerge as a result of manifold trends, ideas, and crises which led to a broad rethinking of both development and conservation fields. The influences that led to the widespread support for CBNRM and that emerged during the 1990's were both internally and externally derived.

The emergence of CBNRM in southern and eastern Africa often had deep locally-derived roots. In the late 1960's, use rights over wildlife on freehold lands in Zimbabwe, South Africa, and Namibia – all then under the rule of contested white minority regimes – was, through a series of legislative reforms, devolved to landowners (Jones and Murphree, 2001). This dramatic shift away from strictly centralized governance of wildlife effectively changed wildlife's status on private lands from an economic liability to an asset, and led to profound recoveries of wildlife on freehold lands and the growth of wildlife-based industries in all three countries (Bond, 2004). The reforms also laid the basis for extending the model of local management to communal lands after the enactment of majority rule in those countries, resulting in Zimbabwe's iconic Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in the 1980's, and Namibia's Communal Conservancies in the 1990's (Jones and Murphree, 2001). These local experiments in CBNRM provided new ideas and opportunities for adaptive learning; CAMPFIRE, for example, played a key role in shaping pilot initiatives in community-based wildlife management in neighbouring countries including Mozambique, Botswana, and Namibia.

Similar experiments were also occurring as early as the 1960s outside of southern Africa. In Kenya, local communities were able to earn income from lease fees paid by hunters in areas such as Kajiado District, where efforts to integrate the management of Amboseli National Park with local livelihood interests led to the crystallization of new 'community-based' conservation paradigms in the 1970's (Western, 1994; Homewood *et al.*, 2009). In contrast, many countries in Central and West Africa were gaining independence from French, English and Spanish colonial rule in the early 1960s. After independence, tenure rights for many countries became more, rather than less centralised (e.g. in Ghana (Alhassan & Manuh 2005), Mali (Hilhorst & Coulibaly, 1998) and Cote d'Ivoire (Stamm, 2000)). This delayed the emergence of community-based management models, which only started to appear in the 1980s and 1990s, with the introduction of decentralisation policies in many countries (e.g. the *Gestion de terriors* approach of Burkina Faso; Batterbury, 1998).

By the late 1980s there was a confluence of this type of local experimentation, changing global discourses on rural development and conservation, and changing political conditions across Africa. Development theory in the 1980s- particularly that oriented to rural development – began to emphasise decentralisation and local empowerment (Chambers 1983, 1987). In the natural resource management field, the emergence of an array of new studies documenting sustainable forms of collective resource management based on traditional rules and norms transformed thinking about communal property rights and institutions (Berkes, 1989; Ostrom, 1990). This scholarship provided much of the conceptual basis for CBNRM, and in many ways was convergent with ideas emerging independently within Africa about local resource management regimes (e.g. Murphree, 1993), as well as with parallel experiments with Participatory Forest Management (PFM) in places like southern Asia.

Conservation efforts, meanwhile, were increasingly subject to concerns regarding the negative impact of protectionist approaches based on exclusion of local people. The Bali Action Plan, an outcome of the 3rd IUCN World Parks Congress in 1982, is seen by some as a turning point in conservation practice, through its encouragement of local participation and sustainable use (Wilshusen *et al.*, 2002). Just after this, in 1985, WWF launched its Wildlife and Human Needs Programme comprising some 20 projects that sought to combine conservation and development in developing countries.

Alongside the emergence of new ideas and narratives about rural development and natural resource management were a range of shocks and crises that overtook Africa during the 1980s, which often created new political space for experiments with CBNRM. Africa's share of global GDP decreased from 2.5% in 1980 to 1.1% in 1996, and African countries had a per capita Gross National Product in 1998 that was only 91% of what it was in 1970 (van de Walle, 2001). The fiscal insolvency of many states led to increasing reliance on external rescue packages and global financial institutions. By the 1980's, a range of bailouts led by the International Monetary Fund and World Bank were being adopted, based on the new global economic prescriptions of 'structural adjustment' (Devarajan *et al.*, 2001). These adjustment policies called for market-based measures, reduced government budget

deficits, and decentralized political economic structures that would promote investment. CBNRM, with its focus on local management and incentives and a reduced role of centralized state bureaucracies, fitted well with the broader suite of economic policies being promoted by donors across Africa during this period. For example, the World Bank published *Living with Wildlife* (Kiss 1990), while the UK Overseas Development Administration (now Department for International Development) commissioned a review of participatory approaches to wildlife management in order to inform its new African wildlife policy (IIED, 1994).

Finally, the end of the Cold War and collapse of communism in Eastern Europe contributed to a sudden resurgence of democratic governance in Africa in the late 1980's and early 1990's (Bratton and van de Walle, 1997). Culminating in the South African general elections in 1994 following the end of Apartheid, this 'second liberation' seemed to usher in a new era of popular participation

Box 1. Definition and theory of CBNRM¹

Community-based natural resource management (CBNRM) is a term that refers to *local* and *collective* resource governance arrangements and practices. CBNRM thus covers a wide range of resource use practices, given the great diversity of both human communities and resources. CBNRM can involve attempting to re-institute local resource governance measures, for example through community involvement in wildlife management following decades of progressive loss of local rights over wildlife due to colonial and post-colonial conservation policies. CBNRM equally applies to traditional resource management arrangements, such as the collective regimes governing rangelands and pastoralist grazing reserves, in-shore fisheries, or communally-managed forests. CBNRM can thus be formal or informal, and often straddles both realms, particularly given the contemporary social and institutional transformations occurring across much of sub-Saharan Africa.

CBNRM is based, at least in its underlying conceptual foundations if not always in its implementation, on scholarship on common property resources and resource governance (e.g. Ostrom, 1990; Agrawal, 2001). Some resources have traditionally been managed collectively or communally, rather than individually, because the resources are subject to shared uses and it would be too costly to individualize the resource. At the same time, if such resources are left entirely ungoverned (or 'open access') then the resource will be subject to depletion through a 'tragedy of the commons' scenario whereby all users compete to access and utilize the resource. Sustainable collective resource governance arrangements are characterized by local groups of resource users ('communities') developing and agreeing to shared rules that limit and regulate resource uses. In this way, local communities can sustain and conserve valuable shared resources through their own self-governance arrangements.

A vast body of literature, building off of work by Ostrom (1990), Murphree (1993) and other early scholars of common property resource theory, describes the characteristics of both human communities and resources that tend to lead to sustainable collective resource governance systems- i.e. successful CBNRM. These include having defined boundaries of the resource or land area and membership of the community, having rules which can be changed and adapted locally, and the existence of linkages across different institutional scales. It is also important, if communities are to invest in resource governance, that they are able to make decisions about how the resource is used, enforce rules governing use, and exclude outsiders from using their resources.

1. The term "CBNRM" is not universally applied or commonly understood across the different regions of Africa. Chapter 3 describes the more common terms and understandings that are applied in different contexts

in government decision-making. The promotion of local participatory and accountable institutions with authority over lands and resources seemed to be an essential component of such political reforms. Indeed, throughout sub-Saharan Africa reforms were adopted during the 1990s which called for decentralization of natural resources and land tenure institutions and greater participation by the public and local communities (Ribot, 2003). However, the widespread adoption of CBNRM in policy and legal reforms during the 1990s, as with the 'second liberation' more broadly, did not necessarily translate into radical changes in local rights or authority over natural resources in the years that followed (Nelson and Agrawal, 2008).

Impacts, limitations, and backlash

The central assumption of CBNRM is that local people will be able to manage lands and natural resources through locally devised rules and procedures, as communal property (Ostrom, 1990). Murphree (1993) stated this fundamental principle clearly near the outset of southern African experiments with CBNRM in the early 1990s:

"The evidence is that communities can become effective institutions for sustainable resource management, but only if they are granted genuine proprietorship, that is, the right to use resources, determine the modes of usage, benefit fully from their use, determine the distribution of such benefits and determine rules of access. Any policy which excludes these components will frustrate the goal of making communities effective institutions for resource management."

9

While CBNRM is premised on the ability of local people to exercise a significant degree of authority over resources, in practice, as this review shows, many initiatives have focused on protected area outreach, where communities are involved largely as passive beneficiaries of benefits generated in areas that are not under their control, and collaborative management efforts where power is shared between state agencies and local people (Barrow and Murphree, 2001). In reality, even fully devolved CBNRM arrangements involve some degree of co-management; local communities are rarely sovereign autonomous entities, and the enforcement of their rights over resources inherently demands a significant role for the state in underpinning local management systems (Murphree, 2000). As the Millennium Ecosystem Assessment (MA) aptly notes, what is needed to sustain natural resources are strong institutions across different scales- with central government providing an appropriate enabling framework for security of tenure and management authority at the local level (MA, 2005).

Indeed, perhaps the core paradox of CBNRM is that it requires strong local rights over resources which must be conferred on local people by the state (Murphree, 2000). As Gibson (1999) and others have highlighted, individuals and agencies within the heterogeneous fabric of the central state often possess strong disincentives to enacting such reforms. As with broader economic policies, the

design of natural resource governance institutions in sub-Saharan Africa are often driven not by considerations of technical efficiency but by an array of personal interests revolving around patronage networks and the exercise of political power (Chabal and Daloz, 1999; van de Walle, 2001; Nelson and Agrawal, 2008). Devolving or decentralising rights over valuable natural resources may conflict directly with such interests, and as a result many of the reforms called for by CBNRM initiatives have not been implemented. This story of reformist rhetoric not being reflected in the substantive content of institutional changes has been told over and over again, not only in sub-Saharan Africa but other parts of the world as well (Ribot, 2004; Shackleton *et al.*, 2002).

Box 2. Key definitions – decentralisation, devolution and CBNRM reforms

Because of the historical legacy throughout most of sub-Saharan Africa of extending central authority over lands and natural resources such as fisheries, forests, and wildlife, CBNRM is fundamentally a reformist undertaking premised on changing institutional arrangements governing lands and natural resources. Shifting rights and tenure over resources from the hands of central state bureaucratic agencies to local communities involves **decentralisation** of resource governance in one form or another. In practice the way these reforms have been designed across sub-Saharan Africa varies tremendously as a result of historical, political, and other factors.

Decentralisation is most generally defined as “any act by which central government cedes powers to actors and institutions at lower levels in a political-administrative and territorial hierarchy” (Ribot, 2004). However, Ribot (2004) further distinguishes two different types of resource decentralisation. **Deconcentration** grants powers to local representatives of central government who are accountable not to a local constituency but to central authorities. By contrast, **‘democratic decentralisation’** involves the transfer of powers to locally elected authorities that are by definition downwardly accountable (Ribot, 2004). According to this governance typology, CBNRM effectively requires democratic decentralisation rather than deconcentration, because in deconcentration local resource users are not granted authority over resource management decisions and uses.

In much of sub-Saharan Africa, CBNRM operates largely based on the decentralisation of various rights and responsibilities over lands and resources to various local government bodies (Alden Wily and Mbaya, 2001). In southern Africa, though, CBNRM tends to focus on the **devolution** of resource governance. Murphree (2000) distinguishes devolution as “the creation of relatively autonomous realms of authority, responsibility and entitlement, with a primary accountability to their own constituencies.” In particular, in southern Africa there has been an emphasis on granting resource tenure to local non-governmental bodies, such as community conservancy committees in Namibia or local community-based trusts in Botswana, rather than to local government bodies. One reason for this is that in most of southern Africa there are not, or historically have not been, any local governance bodies at the village level which could serve as legally delegated proprietors over collectively managed resources (Murphree, 2005).

These differences in preferred terminology can be confusing and obscure the key point that the core underlying basis for CBNRM is the establishment of secure rights over resources in the hands of local, downwardly accountable collective institutions, which Ribot (2004) and many international scholars term ‘democratic decentralisation’ and Murphree (2000) and many influential southern African scholars and practitioners refer to as ‘devolution’. Substantive disagreement and debate does exist, however, on whether it is better to transfer rights over resources to downwardly accountable local governance bodies or to autonomous local non-governmental bodies (see Ribot, 2004).

The frequent failure of CBNRM reforms has had a number of important implications. One is that, as Jones and Murphree (2004) note, the performance of CBNRM initiatives has often been disappointing. Donors and other supporters have tempered their enthusiasm for CBNRM, as the realities of the challenging nature of these reformist approaches have set in, and often shifted their resources to new and more fashionable narratives such as transfrontier conservation areas and PES (Hutton *et al.*, 2005). Conservationists, perceiving a failure of communities to protect resources even while continually being deprived the requisite authority to do so, have adopted a critical stance which often has been dismissive of CBNRM and called for reinforced protection of biodiversity through state protected areas (Kramer *et al.*, 1997; Oates, 1999; Spinage, 1998; Terborgh, 1999).

Why take stock at this point?

Despite the many practical failures, reduced support, and critical backlash that CBNRM efforts have faced during the past two decades, issues surrounding local collective land and resource management remain central to any discussion of rural development and biodiversity conservation in sub-Saharan Africa. As Alden Wily (2006, 2008) notes, over 90% of Africa's rural population accesses land through customary institutions, and a quarter of the continent's land area- some 740 million hectares- is made up of communal property such as forests and rangelands. From Africa's growing tourism industry to the continued reliance of rural people on veld and forest products for food, medicine, and other uses, the sustainability of natural resources remains central to livelihoods and largely reliant on the governance of those resources through collective local institutions (Fabricius *et al.*, 2004; Roe, 2008). Conservation is similarly reliant on local incentives to practice stewardship, and where resources such as wildlife have been sustained or increased across private and communal landholdings it has largely been due to effective reforms of the centralized colonial governance model (Child, 2004; Nelson, 2008; see Norton-Griffiths 2007 for a counterexample).

CBNRM also remains central to ongoing political evolutions and struggles in sub-Saharan Africa. The substance of political authority and democracy is reflected not so much in the ritual of national elections, but in the realities of resource control that fundamentally shape the power of different actors within society (Ribot, 2003). The ways that debates and struggles over lands and natural resources influences people's ability to manage their own lands and resources consequently has profound implications for broader democratic trends, as well as for the ability of African societies to avoid the violent conflicts that often revolve around those contested resources (Alden Wily, 2006).

Even while new narratives such as PES attract a flurry of interest from donors, governments, and NGO's, the foundations of these approaches rest on the familiar ground of local resource governance, tenure, and institutional performance. Climate change is dominating both environment and development

policy discourse. Global studies note that it is the poorest communities in the poorest countries who will likely be most impacted by new climatic patterns and oscillations – both as a result of their geographic location, their vulnerability to environmental hazards and their direct reliance on ecosystem services (IPCC 2007). At the same time, land use change is responsible for 18% of greenhouse gas emissions, with this arising almost entirely from deforestation in the tropics (Stern, 2007). New proposed mechanisms for tackling climate change such as PES schemes termed Reduced Emissions from Deforestation and Degradation (REDD) are gaining widespread attention and funding given the urgency of the climate challenge. However, for such interventions to effectively reverse deforestation trends they will need to create incentives at the local level for communities to invest in forest conservation, given that most deforestation occurs on community lands due to insecure tenure and weak property rights (Sunderlin *et al.*, 2008). Some observers have already noted with concern the potential for REDD interventions to stimulate a return to top-down state management of natural resources – to the detriment of local resource-dependent communities and ultimately to the likely detriment of efforts to effectively address existing deforestation trends (Griffiths 2008). Debates about how REDD funds are structured and benefits captured are not only debates about what technical strategies and institutional arrangements will be most effective in combating deforestation, but are interlaced with the inherently political contests over access to these new financial flows, and the power that access to capital confers to local and central actors in the context of Africa's evolving governance institutions and democratic struggles.

Thus narratives and acronyms may change but the fundamental issues of resource tenure, governance, and institutional reform remain the same. This review attempts to summarize and update the impacts and achievements of CBNRM across the different regions of sub-Saharan Africa, and to try and understand the underlying factors – including issues of governance, ecology, demography, market forces and so on – that have produced those outcomes. In doing so, it strives to not only synthesize the outcomes CBNRM has had in terms of environmental conservation, local capacity, and economic development, but also to raise key questions which must be better addressed in order to catalyze improved local resource management outcomes. What institutional arrangements and governance reforms have led to the most marked improvements in terms of conservation and developmental outcomes? What factors enable or disable CBNRM reforms? How can greater local resource rights and tenure be most effectively promoted? What role do central governments, foreign donors, the private sector, NGO's, and local communities themselves play in the adoption of key reforms? In shedding light on the answers to these core questions, this pan-African review will attempt to provide useful guidance for the next generation of efforts to support community-based natural resource management systems across sub-Saharan Africa.

Community involvement in natural resources management in Africa – regional overviews

Aurélie Binot, Tom Blomley, Lauren Coad,
Fred Nelson, Dilys Roe and Chris Sandbrook

3.1 Introduction: Different understandings of, and approaches to, CBNRM in different regions

This review was commissioned to explore experience in CBNRM in the different regions of sub-Saharan Africa. What is immediately clear is not just that, as noted in the previous chapter, CBNRM takes many different forms in different locations and different socio-political and bio-physical contexts, but that the term itself is used and interpreted in many different ways. In Southern Africa, Jones (2004b) notes that the term refers very specifically to approaches where authority over natural resources (particularly wildlife and forests) has been devolved from the state to defined groups of resource users on communal land. Indeed, substantively speaking, CBNRM inherently means local groups of people ('communities') managing resources in an active manner and with some significant degree of formal (*de jure*) or informal (*de facto*) control or tenure over those resources (cf Ostrom, 1990; see also Box 1). Operationally, however, CBNRM is often used by governments, donors, and NGO's engaged in development or conservation initiatives to subsume a much wider range of local level involvement, ranging from passive to active, in natural resource management.

13

In Francophone Africa, for example, the term CBNRM is not in common, practical usage – although international NGOs and donors use the term CBNRM in the context of "CBNRM Zone" (Parnell, 2006) or "CBNRM corridor" (Steel, 2008); in Equatorial Guinea a "CBNRM National Forest" has recently been declared (CI, 2006). These zones are predominantly co-managed for sustainable use (along the lines of protected area buffer zones) rather than being CBNRM in the substantive sense. The term "Community Conservation Zone" has been used by Conservation International to describe new community-managed protected areas in Democratic Republic of the Congo (DRC; Mehلمان *et al*, 2006). The more common language in West Africa tends to be about decentralised resource tenure and land management ("*gestion de terroir*"²), not specifically CBNRM. In Central Africa terms used most are community outreach (*sensibilisation*), and sustainable resource management (*la gestion durable*). Nevertheless, all conservation programmes or natural resources management programmes do use

2. Literally "management of land"

the language of participatory approaches – but often without the accompanying transfer in tenure and authority implied in the Southern African definition. In East Africa, ‘CBNRM’ is not a commonly used term at all in an acronymic sense, even if community-based natural resource management is widely practiced across the region. East African countries tend to feature relatively sharp divisions between different resource sectors- forests, fisheries, and wildlife. In the wildlife sector, ‘community-based conservation’ is the more common term for CBNRM, while in forestry ‘participatory forest management’ refers to community-based forest management where local people have secure devolved authority over forests as well as joint forest management where forests are co-managed between locals and state agencies.

At a pan-African scale the diversity of terminology is highly confusing and means that one cannot possibly survey ‘CBNRM’ simply based on what different people in different places refer to as ‘CBNRM’. Operationally, CBNRM in practice may refer to a wide range of different modes of local involvement in natural resource management, including the passive receipt of benefits from protected areas or other instances where communities are not actually empowered to do much ‘management’ themselves. Substantively, however, we emphasize that for communities to manage and conserve natural resources, based on their own social and economic interests in the sustainable use of those resources, CBNRM requires that local people have a reasonable degree of tenurial control over lands and resources and can make decisions about resource use, access, and allocation. In the regional reviews presented in this report, we explicitly include the widest possible suite of activities considered CBNRM in an operational sense in different contexts and locales. However, we retain the necessary substantive definition of CBNRM required for useful analysis.

We recognise that the level of community involvement in natural resource management varies hugely between and within regions – from protected area outreach – where communities are passive beneficiaries of natural resource management conducted by others, to community involvement in natural resource management – where communities participate through co-management agreements or other forms of involvement – to natural resource management that is actually carried out by communities for local benefit (Table 1).

We also recognise that traditional, natural resource management practices have been carried out by communities for centuries and continue so. In many cases these traditional activities, based on local rules, norms, and knowledge, are functionally much more representative cases of CBNRM than many of the formal, externally-supported projects and programs that also define themselves as CBNRM. While we touch on these endogenous approaches in this review, the overall purpose of the review is to help inform approaches to ‘formal’, state-backed (at least in policy if not always in practice) CBNRM, so that remains the major focus of this document.

Table 1. A spectrum of approaches to community involvement in natural resources management

	Resource proprietor	Community role	Level of local participation
Protected Area (PA) outreach and benefit-sharing	State	Receive benefits from PA managers; cooperate with PA managers in protecting PA resources	Weak; participation limited to largely passive actions
Co-management (or joint management)	State but may be decentralised or deconcentrated	Cooperate with state authorities in management of the PA or resource in question	Medium; depends on the rights and responsibilities granted to local communities in a given situation
CBNRM	Local communities through collective representative body	Resource managers through either delegated usufruct rights (user rights) or outright proprietorship	High; communities as main proprietors, decision-makers, and beneficiaries.

Source: Adapted from Barrow and Murphree, 2001.

In this chapter we provide a synthetic overview of the diverse operational forms of CBNRM within each region, and attempt to highlight some of the differences between regions. The policy and legislative framework alone varies hugely from country to country, region to region and the main provisions are included in Annex 1, while key trends are summarised following the regional overviews. We do not cover each region on a systematic country-by-country basis. We focus on countries for which information is readily available and for which some kind of community involvement in natural resources management is evident. Figure 1 illustrates the extent of this coverage.

3.2 Central Africa: Forest conservation, protected areas, buffer zones, regional coordination, international involvement

Centralisation constrains land and resources management

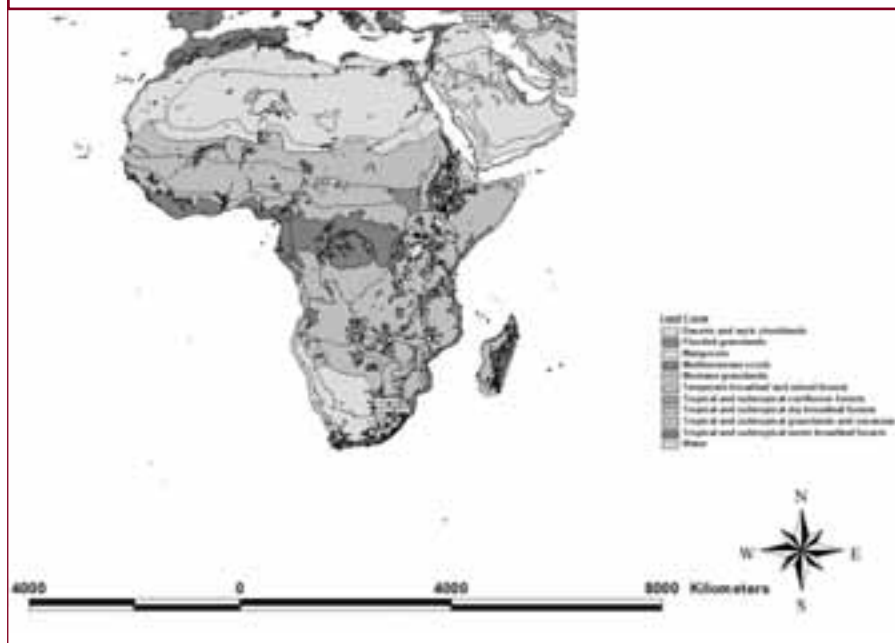
In Central Africa, land is state-owned and resource management is generally highly centralised. At a practical level however, traditional community land tenure systems have persisted due to poor infrastructure, weak central government authorities and small, dispersed rural settlements making awareness and enforcement of state law difficult (CBFP, 2006), although where areas are becoming more easily accessible, and regional government authorities exist, traditional systems are beginning to erode or change (Allebone-Webb, 2008; Coad, 2007; Colom, 2006; Gami, 2003). Customary land use rights are very dynamic, as they are established inside a perpetual negotiation process between different social groups and stakeholders (Binot and Joiris 2007; Delvingt 2001).

Figure 1. Political map of Africa



In the last decade, policy and legislative reforms (often within the forest sector) in many countries are beginning to open up opportunities for state-backed, decentralised management. In some countries this legislation has been practically adopted (e.g. community forestry in Cameroon and Central African Republic (CAR)). In others, required legislation has not yet been passed, preventing potential projects from being initiated (e.g. Gabon's new forest policy), or where passed has not been implemented (e.g. Equatorial Guinea's potential for forest reserves; see Annex 1 for land tenure laws). Despite recent reforms, centralised land tenure legislation is still a significant constraint to CBNRM in the region (Roulet *et al.*, 2008). Furthermore, decentralisation of valuable resources (particularly timber) is not occurring to any significant extent in many countries, and the decentralisation processes themselves can often reproduce authoritarian forms of governance at the local level.

Figure 2. Eco-regional map of Africa



Real community management can be greatly restricted by a lack of supporting national policy, regardless of the amount of donor involvement and potential for community projects in the region. Attempts to set up community projects against the backdrop of legislation that does not allow for community management can cause conflicts between government organisations and project management, regardless of the extent to which land tenure laws are enforced (Gami, 2003, Sodiek, 1999). In turn, where legislation does exist for community management, this can strengthen project legitimacy (Roulet *et al.* 2008). The implementation of formal community-based programmes that provide real access to benefits for communities thus remains difficult, even though community-based initiatives are now systematically favoured by international donors.

A focus on conservation and protected area outreach

Formal or 'projectised' CBNRM in Central Africa tends to focus on PAs, including hunting areas, which are managed principally by the state. In part this is due to the established centralised approach to resource management, but also due to the high priority among global actors (such as international NGOs and donor agencies) traditionally afforded to conservation in the Congo Basin (especially preservation of forest habitat and associated biodiversity). Most recently, the international priority to conserve the forests of the Congo Basin has increased in response to recognition of the role of deforestation in climate change. New climate change policies, such as the proposed REDD projects, may provide funding for CBNRM. In the Republic of Congo preliminary studies have already

been carried out to investigate the size of carbon stocks, and whether funding of PA through carbon mechanisms will be successful in reducing emissions for deforestation (Brown, 2006). Similarly in Gabon, research funded by the Gabonese Government is underway to assess forest carbon stocks, and to inform government policy on REDD (Lee White, pers com.).

With high levels of biodiversity, and impressive forest habitats, the Congo Basin countries also have a strong potential product for community-based ecotourism projects. However, the current conditions in many countries (civil unrest, poor roads/ tourist infrastructure, poor local staff skills, high flight prices, difficult terrain, cryptic species) mean that the potential for ecotourism is currently unmet.

At one end of the community involvement spectrum, many government-donor initiatives focus on residents inside the buffer zones of state PAs and are focussed on reducing the bushmeat trade (Rieu *et al.* 2007; Box 3). Often these projects allow for sustainable resource extraction, where the creation of PAs has had the effect of limiting use, and they also provide community development and alternative livelihood opportunities through micro-projects (for example, the micro-development initiatives such as the Cane rat (*Thryonomys swinderianus*) farming micro-project in Lope reserve, Gabon, in the mid 1990s).

18

In most cases, the conservation project offers support to the communities as a means of compensation for their losses in natural resource use, land tenure control etc. This does not conform to a substantive definition of CBNRM, given that the empowerment of communities is rarely part of the conservation project's objectives, and limited or no transfer of authority over communal resources occurs during the course of these initiatives. The focus is more on community involvement or community awareness (Box 4).

Some PA projects have gone further, setting up community conservation zones on the PA periphery (Parnell 2006). These zones are areas that either link a number of PAs in a broader landscape (e.g. the Zakouma National Park ecological corridors in south-east Chad (Binot *et al.*, in press) or support community-based tourism activities (e.g. the Lossi Gorilla Sanctuary near Odzala National Park in Congo (Gami, 2003). Several countries in Central Africa have also experimented with community based hunting zones largely inspired by Southern African experiences – such as the village hunting areas in northern CAR (Box 5). These community conservation zones have the *potential* to fulfil both conservation and development objectives creating 'conservation corridors' within a PA mosaic, while at the same time bringing in development aid, the formal recognition of community structure and rights, and protection against international logging companies for the communities within the community zone.

The formal recognition of community structure and rights in Central Africa is still, in most of the cases, not emerging from the civil society itself. Village committees and other forms of community based organisations are established by formal

conservation programmes, with sometimes low levels of local involvement and ownership (Joiris and Bigombe, 2008). Furthermore, the extent of recognition of community rights can often be limited to a passive validation process by “local populations”, represented by a coordination unit set up by the conservation project with the local authorities’ informal agreement. The Zakouma National Park in Chad, for example, shows how the PA’s management plan (including

Box 3. Bushmeat hunting in Central Africa

The term bushmeat means ‘the meat of any wild animal hunted for food’ (DEFRA, 2006), and refers to a wide range of species, from rodents to elephants. Bushmeat provides an important protein source for many rural communities for whom few other protein sources are available; estimates for the Congo Basin suggest that in rural communities 30 – 80% of protein, and almost all of the animal protein, is provided from bushmeat (Koppert *et al.*, 1996). The sale of bushmeat can also provide a large proportion of incomes in rural areas; a recent study in rural Gabon reported that hunting accounted for between 15% to 72% of household incomes, with the proportion increasing for more remote communities (Starkey, 2004). Livelihood alternatives to hunting can be scarce in rural villages, and short-term and unpredictable where available (DFID, 2002).

Despite its importance for food security, legal bushmeat trade and management is not common at a local level, and it remains globally an “informal” sector, with trade illegal in most cases, and hunting laws and permits controlled at the central (Ministry) level (Schenk *et al.* 2006, Samndong 2005, De Merode *et al.* 2004). There have, however, been some experiments in local management of bushmeat in a number of Central African countries, including the use of PA buffer zones, small-scale rearing of bushmeat species as protein substitutes, and strengthening of local land tenure:

- Where bushmeat hunting is restricted by PA designation, hunted areas can be supplemented through dispersal of prey into buffer zones (Novaro *et al.*, 2000). The practical advantages and disadvantages are currently being tested in the Congo, where the Projet Gestion des Ecosystèmes Périphériques au Parc National Nouabalé-Ndoki (PROGEPP) buffer zone project has been running since 1998 (WCS Congo, 2009). The project works with local communities, logging companies, and park managers, and uses spatial management of bushmeat hunting to sustainably harvest bushmeat around the Nouabale-Ndoki National Park, through the rotation of hunting and no-take zones, and in conjunction with projects to reduce hunting by providing alternative protein sources. To date there have been no published data as to the success or failure of this project.
- An alternative approach has been to develop alternative sources of protein through game-ranching. A number of bushmeat rearing projects have been trialed in Central Africa with (Engamba, 2007; Houben, 1999; Jori *et al.*, 1998), but to date there has been little success. In Gabon and Congo, for example, a cane-rat rearing project (Élevage de Petit Gibier implemented in 1995 showed the potential for profits under the right conditions, but research suggested that the potential of the project to produce enough cheap domestic meat to reduce demand for wild bushmeat was low (Jori *et al.*, 1998). Mockrin *et al.* (2005) suggest that while rearing projects are a useful commercial venture, supplying the urban rich with high quality meat, the meat that they produce is too expensive to be a substitute for wild meat for the larger urban middle-class and poor.
- Community conservation schemes have also attempted to reduce the open access nature of hunting in villages by strengthening community and household land rights. Even under a closed-access system, local communities must be small, impregnable to outside hunters, and must not discount the future at a high rate for sustainable management to occur (Becker and Ostrom, 1995).

Box 4. Protected Area Outreach in Central Africa

The Dja Periphery Community Engagement Project (DPCEP)

Dja is a 630,000 ha Biosphere reserve in the South of Cameroon. There are approximately 6000 people living in the buffer and transition zone of the park, and research by Bristol zoo in 2003 suggested that communities are unsupportive of the parks because they see no benefits for the local community, and there is no mechanism for participation in the development of policy. As a result of these findings, Living Earth, in partnership with Bristol Zoo Gardens, developed the Community Engagement Project (Living Earth, 2008). The aim of the project is to: 'Assist local communities living around the Dja Biosphere Reserve (DBR) to engage more effectively with the government of Cameroon and biodiversity protection agencies, in order to foster enhanced understanding of each stakeholder's concerns and thus to render more effective conservation activities.'

Wildlife Conservation Society (WCS) Gabon Outreach Programme (WCS Gabon, 2008)

The Outreach Programme is an educational programme, focussing on environmental education, but also teaching basic educational skills (reading, writing and maths), and training in practical skills such as agricultural techniques, and palm and almond-oil making.

The Mayumba CBNRZ and outreach programme (Parnell 2006; Sanders 2007)

Mayumba National Park is a marine PA protecting sea turtle breeding grounds in the South-West of Gabon. The beaches and sea protected by the park are used as fishing grounds by the town of Mayumba, located right next to the park, and Mayumba National Park has pursued a collaborative approach with the local community

the creation of ecological corridors) has been validated without preliminary local negotiation and is not representative of the local socioeconomic and socio-political situation (Binot *et al.*, in press; Box 6). In other cases, community conservation zones have the effect of further restricting forest use in an already protected landscape; because they are classified as conservation areas they are legally under state control with no real devolution of authority to the community level. This can result in communities having little or no legal authority and power to restrict forest use, enforce conservation management plans, and prevent extraction by outsiders.

A global analysis of the results of such experiences (Roulet 2007) shows that this model of decentralised PA management can bring considerable economic and socio-political constraints to local community rights. In most cases, CBNRM actions are designed and proposed by external stakeholders (the state, international community, conservation NGOs.) at a global level. The local political context (such as corruption, highly authoritarian structures, state control and a lack of effective decentralisation) or social context (lack of education, social structures dominated by local elites, limited democratic processes etc.) are rarely integrated in the projects' strategies. Yet this integration is essential in order to "secure" CBNRM implementation. As a result, community involvement is limited to passive participation in committees and meetings driven by conservationists, rather than in any active decision-making power over how to manage their forest and the PA buffer zones. Resource use is often constrained for local people (for example with restrictions on slash and burn, hunting and gathering) and the benefits in most of the cases are monopolised by the elites and not valorised at the community level.

Box 5. Village Hunting Zones in Central African Republic

The Zones Cynégétiques Villageoises (ZCV) are community hunting reserves (co-managed with ECOFAC) which buffer two of the National Parks (Manovo-Gounda-Saint-Floris and Bamingui) in the North of CAR. Conservation in CAR has historically been government-owned and run, with little community involvement (Mbitikon 2005). However, with the introduction of the ZCV in 1992 communities have not been restricted to small game and/or NTFP harvesting, and have seen their rights regarding wildlife recognized (Roulet *et al.*, 2008).

The ZCV are co-managed rather than community-managed: activities are conducted by a management committee comprising community members from the area, and set up by the General Assembly. The project is based in a landscape of PAs and hunting zones, which buffer the PAs. Within these hunting zones, the management committee organises hunting safaris (aiming for sustainable use through quotas and anti-poaching measures), collect taxes and fees and distribute revenues, identify possible new hunting areas, and control illegal logging. There are now 10 hunting zones in existence, covering 80,000 km² (ECOFAC, 2008; Mbikton, 2005).

Currently, the main revenues are produced from safari hunting, and incomes are produced from hunting and gun permits, hunting camp rental, and fees per animal hunted. Further details are given in the Economics section of Chapter 4.

A number of positive and negatives from the project have been reported by Mbitikon (2005) and ECOFAC (2008). For example, on the positive side villages are now voluntarily fighting poaching, hunting companies are starting to show support, and in 2000 six new areas requested to be part of the project. On the negative side, there is little national and local government support due to weak state regulation of land tenure laws, and lack of revenue from the wildlife sector compared to mining and logging, and there is no legal framework for the community management of the ZCV.

21

Box 6. Efforts to foster community participation in protected areas management in Chad are flawed by lack of attention to pastoralists

In south-east Chad, the Zakouma National Park (3000 km²) is considered a sanctuary for Central and Western African biodiversity due to water availability throughout the year. During the wet season (June to November), some big mammals (mainly elephants, giraffes and antelope) range outside the park. The park's surrounding area, with low demographic pressure except at the eastern edge, constitutes a major "reception" zone for wildlife during this season. As elsewhere in Africa, local communities (sedentary and nomadic) are highly dependent on natural resources for their subsistence needs. The main socioeconomic activities around Zakouma national park are agriculture, sedentary and nomadic livestock breeding and wild products gathering, except timber.

A management plan developed for the park has identified agricultural area expansion for post-flood sorghum as the major threat for wildlife conservation but the area is also very attractive for pastoral use, thanks to easy access to water and availability of good quality fodder (Binot *et al.* 2007). It is critical, therefore, that any resource management plan for the park periphery should be developed in conjunction with pastoralists as well as sedentary communities. However, pastoralists have not been integrated into the negotiation process of the conservation project, which focuses on sedentary people. For example, there is no possibility of seasonal use rights inside natural savannahs and the future biological corridors, and no prior negotiation process has been planned with pastoral actors.

At the other end of the spectrum, community-driven PAs (Community Conserved Areas – CCAs), are beginning to appear within the Central African landscape. Two forms of CCA currently exist: those set up by external agencies (donors/ government/NGOs) and co-managed with community management committees; and those set up by communities themselves (albeit in some cases with technical and financial support from external agencies see Box 7). Within donor-driven projects, donors are increasingly incorporating traditional management structures and practices into management plans and reserve design (e.g. Lac Tele Community Reserve (WCS, 2006)). CCAs set up by communities bypass many of the problems of ‘outsider’ management, but seem to have sustainability issues, with many reporting the need for donor support and training to navigate legal requirements (Carrere, 2007; Gami, 2003). Although there is a growing grassroots demand for community management in some areas, in much of Central Africa colonial policies of state tenure, urbanisation and commodification have weakened community power structures (Portier, 1998). The result is a mismatch between donor conditions and practical possibilities on the ground. Examples of existing CCAs are described in Box 7.

Beyond protected areas

Several countries in Central Africa have recently reformed their forest policies to allow for the possibility of community management. Communities often require a large amount of support to establish and manage community forestry. However, in many Central African countries government agencies are unable to provide the necessary support. As a result the potential for community forestry has only been realised in the rare cases where external support agencies (both development cooperation agencies and international conservation NGOs) have stepped in to provide technical and financial support (e.g. the ZCV project in CAR; The Lossi Gorilla Sanctuary in the Republic of Congo (ROC)). One exception is Cameroon where many instances of on-the-ground community forestry programmes can be found (Box 8), although Bigombe (2002) reports that there are still some teething problems with the system; most management models are modest, and experience in the management of community forests is limited. Brown and Schreckenber (2001) also point out that nowhere in the Cameroon legislation is there any attempt to define the nature of the “community” into whose hands the management of a “community forest” is to be placed.

Oyono (2004) goes further, analysing impacts of 10 years of forestry decentralisation through council and community forests implementation. His findings suggest that despite a theoretical transfer of powers to regional and local level stakeholders, the practical forestry management experiment reinforces strongly central stakeholders’ (bureaucrats and state authorities) power. Governance at local level is generally poor and characterized by lack of transparency and accountability. Technical assistance and support appears essential at this level – from the State or external actors (Yves Hausser pers comm.).

Box 7. Community Conserved Areas in the DRC

In the DRC, the 2002 forestry code recognises the rights of local communities to manage their traditional forests, on application to the relevant authorities (see Annex 1 for further information on forest laws for Central Africa). Under this legislation a number of CCAs have been established (Mehlman, 2006), although there is currently little published information on their management and outcomes. One example is the **Tayna Reserve**. This was instigated by Pierre Kakule Vwirasihikya – a chief warden at Virunga National Park – who approached the traditional Bamate and Batangi chiefs and persuaded them to establish a 900km² gorilla reserve. The Tayna reserve places restrictions on bushmeat hunting, and monitors resource use within the park. The reserve was officially recognised by the government in 2002, and now serves as a model for the creation of other community-based reserves. On the back of this success, eight community-based NGOs from the region formed a federation called the Union of Associations for Gorilla Conservation and Community Development in eastern DRC (UGADEC), to organise further conservation activities modelled on the Tayna Reserve (Mehlman *et al.*, 2006). This area is called the Itombwe Massif Community Conserved Zone (IMCCZ). Logistical support for the IMCCZ is provided by Conservation International, with funding from Central African Regional Program for the Environment (CARPE), which has created a Sustainable Financing Plan for the Landscape, including a \$4 million trust fund, and have provided health care, family planning, education and development micro-projects for communities involved in the project.

Regional approaches and international support for forest conservation

A feature of resource management in Central Africa is the large number of international support programmes and regional approaches which have been adopted. Although all of these programmes include some form of community involvement they are in most of the cases conceived abroad (funding is predominantly from the European Union (EU) and United States of America (USA)), in collaboration with national authorities but disconnected from the local level. This gap between local context and the international frame of reference explains partially why CBNRM programs are so difficult to implement in the field (even if they are encouraged through donor support). Details of some of the major regional programmes in Central Africa are given in Table 2.

23

Traditional management of natural resources

Much of Central Africa is characterised by centralised government ownership but weak control and management in practice, leaving *de facto* community regulation. In common with other regions of Africa, the nations of Central African have a diverse range of ethnic groups bringing a diversity of tenure systems. However, the main structure of tenure systems in the region seems to have a similar basis; village communities often have a patrilineal system of land tenure inheritance, governed by a group of 'elites' or village chiefs. Specific village areas are owned by clans, and within each clan, families also have tenure rights over delimited areas of land (Alexandre & Binet 1958; Joiris 1996; Van de Berg, 1998; Pourtier, 1989; Gami, 2003; Colom, 2006; Coad, 2007; Van Vliet, 2008; Allebone-Web, 2008). Land sales are a relatively new idea, often introduced with commercial logging (e.g. in Cameroon; Van de Berg, 1998), and land may be lent to migrants to the village, for a specific time period such as a growing season or a lifetime, but land will stay within the family or clan. Often old village rules will outlaw certain areas or species from being harvested, and enforcement can be through village elites and/or magic.

Box 8. Examples of Community Forestry in Cameroon

Revisions to the Forestry laws in Cameroon in 2001 brought in the provision for local communities to acquire the exclusive rights to manage and exploit up to 5,000 ha of customary forest, under a 15-year contract (FAO, 2006; see Annex 1). Communities must have formed an association or cooperative in order to apply for a community forest contract, and must produce an annual management plan. The establishment of community forests has recently received great impetus, with local and international NGO's helping local communities to submit applications and management plans. In 2006, 116 community forests had been granted by the Ministry of Environment and Forests (MINEF), with another 140 underway but not yet granted (Tchamou, 2006).

One example of a community forest in Cameroon is the **Ngola-Achip Community Forest in East Cameroon**. This was first initiated with the help of a local NGO, Enviroprotect. Four villages formed the 'Association of Balagbo, Pa'a and Bamouh Families of Ngola-Achip', and the community forest was legalised in 2001. The goal of the association is 'to involve village inhabitants in the sustainable management of their forest to facilitate poverty alleviation'. (Kenneth, 2006). The formation of community forest associations, such as that at Ngola-Achip, show how much legal decentralisation of forest resources can impact at the community level; the association is making a profit, and in the first five year period, the community development fund has built new houses, provided school fees and emergency medical care, and bought a generator, satellite dish and two television sets for the village. However, it also highlights the need for local education, technical and financial support, and training, in order for decentralisation policies to become practically implemented (Kenneth, 2006).

24

In many areas these traditional land use laws persist despite a policy of regroupement, introduced by the French colonial government whereby dispersed nomadic communities have been settled along transport routes (Pourtier, 1989, Allebone-Webb, 2008). In Gabon, for example, regroupement villages are divided into *quartiers*, which represent the old villages and clans that were brought in from the forest to form the *regroupement*. The *quartiers* often retain their own hunting and agricultural areas, and their own clan chief (Pourtier, 1989; Starkey, 2004; Coad, 2007), with one village chief holding overall authority within the village. Certain species are often protected under village law (for example, the Pouvi ethnic group protects leopards), and certain areas of the forest can be off-limits for extraction, or access, due to traditional beliefs and religions (Coad, 2007). In Equatorial Guinea also, Kumpel (2006) reports the continued existence of traditional taboos or totems, which mean that certain species are ignored if encountered: great apes and chimps are seldom hunted due to similarity to man, and galagos ('bush babies') on Bioko Island, are avoided, as they are considered to be evil.

In some cases erosion of traditional laws has been reported, for example where government laws have been introduced, or where new industry or development projects have resulted in a new power structure (e.g. in the case of community forestry in Cameroon, (Kenneth, 2006), and the construction of the Transgabonais railway (Angoue, 1999).

Table 2. Regional natural resource management initiatives in Central Africa

Programme name	Programme details
Conservation et Utilisation Rationnelle des ECOSystems Forestiers d'Afrique Centrale (ECOFAC)	An EU funded initiative established in 1992 to provide funding, infrastructure, capacity and training for the setup and management of PAs in seven Central African countries. Focuses on conservation through PAs and buffer zones, but has invested in development of micro-projects around Dja, Monte Alen, Odzala and Ngotto, is involved in the ZCV initiative in Central Africa Republic and community-based Lossi gorilla sanctuary in Odzala.
The Central African Regional Program for the Environment (CARPE)	A United States Agency for International Development (USAID) initiative, aiming to reduce the rate of forest degradation and loss of biodiversity in the Congo Basin by increasing local, national, and regional natural resource management capacity. Began in 1994, running to at least 2014. Projects organised on a 'landscape' basis, including: PAs, CBNRM zones, and extractive zones.
The Commission for the Forests of Central Africa (COMIFAC)	Established soon after the first Yaounde summit (1999), COMIFAC is a caucus of the Environment ministries of the region, and the primary authority for decision-making and coordination of sub-regional actions and initiatives pertaining to the conservation and sustainable management of the Congo Basin forests. Integral to recent changes in the forestry laws of many countries in the Congo Basin, which have often introduced new legal frameworks for community forestry.
The Congo Basin Forest Partnership (CBFP)	A voluntary, non-binding partnership bringing together 29 governmental and NGOs, including the 10 member states of the COMIFAC and conservation and development organisations from the public, private and civil society sectors. The CBPF provides a mechanism for bringing stakeholders together, to aid the implementation of intergovernmental commitments
The Congo Basin Forest Fund (CBFF)	A multi-donor fund, launched in June 2008. Supports projects from governments, civil society and the private sector, to slow rates of deforestation through developing the capacity of the people and institutions in the countries (CBFF, 2009). One of CBFF's overall objectives is to <i>"reduce poverty amongst forest communities"</i> . The CBFF is initially being financed through a grant of £100 million from the British and Norwegian Governments.

3.3 East Africa: Protected areas, tourism, forest management, pastoralists, power struggles

Institutional, historical, and ecological context spawn different models of CBNRM

In East Africa, governments and supporting donors and NGO's have encouraged the development of diverse modes of local involvement in natural resource management since the 1990s (Barrow *et al.*, 2000). In some locales, such as the Amboseli ecosystem in southern Kenya, experiments with CBNRM date back as far as the 1960s and 1970s (Western 1994). In countries such as Ethiopia, Rwanda, Tanzania, and Uganda, the period of 1985-1995 witnessed major changes in political regimes and socioeconomic policies, which fostered widespread policy reform processes heavily backed by foreign donors. In this context of institutional reform and intensive foreign support, the increasingly popular CBNRM narrative was widely promoted and adopted. However, since the 1990's the political space for meaningful devolution or decentralisation of natural resources to local communities has generally waned, just as political authority has often been progressively re-centralised across much of the region since the initial reform moments of the 1990s (see for example Bratton and van de Walle, 1997; Mbaku and Ihonvbere, 2006).

26

Although there are some commonalities to CBNRM practices and policies across the region, there are significant differences between East African countries. In Kenya, Tanzania and Uganda these differences are largely shaped by different land and resource governance policies and the physical location of valuable resources (wildlife and forests) inside or outside of state PAs. In Kenya, for example, wildlife management and tourism development are fundamentally shaped by the reality that an estimated 65% of Kenya's wildlife (i.e. large mammals) is found outside the boundaries of state PAs (Western *et al.*, 2006) on land that is individually or collectively owned through private or "group ranches". Kenya affords private landowners more unambiguous control of their properties than is generally the case in most African countries, with a freehold tenure structure similar to that of private properties in parts of southern Africa. As a result of such land tenure provisions, communities are able to capture the benefits from wildlife on their land through non-consumptive (i.e. photographic) tourism – although a persistent protectionist wildlife policy means that they have few or no rights to utilise the wildlife through hunting or other forms of consumptive utilisation (Norton-Griffiths, 2007). In Tanzania, although local communities do have some opportunities to benefit from hunting through CBNRM initiatives, weaker local land rights mean that the extent of vested interests in central government and the private sector are potentially able to undermine local opportunities to use communal land to generate benefits from non-consumptive tourism (TNRF, 2008). In Uganda, a much larger proportion of forests and wildlife remain within state PAs – partly because as a result of two decades of civil war, wildlife populations were seriously depleted and their limited recovery has been concentrated in PAs. As a

result, there has been a correspondingly stronger focus on collaborative management (or co-management) rather than the more devolved forms of community based management.

Ethiopia and Rwanda also present different situations, reflecting both political elements of resource management and demographic realities in those countries. Ethiopia has retained very centralised natural resource management policies – although moves are being made towards some participatory forms of forest management (see below) that, as in Uganda, focus on co-management or joint forest management. Meanwhile in Rwanda, the impact of the 1994 genocide and subsequent political trends extends to CBNRM. The breakdown of community institutions, combined with absence of external authority, resulted in rapid encroachment and clearance of formerly protected, forest land. The “rebuilding” of Rwandan institutions since the genocide has been characterised by increasing centralisation of authority over natural resources as state conservation agencies expand their powers and assume responsibility for almost all areas deemed significant for biodiversity and other ecosystem services. These trends are in line with what is effectively a state-based model of social reconstruction and economic development under Rwanda’s post-genocide ruling regime. This has had the effect of taking back some powers previously held and exercised at the local level, along with communities’ exclusion from some resource uses, although some new local opportunities are also emerging from growing levels of private investment in tourism and the recuperation of Rwanda’s PA system during the past decade.

Reform or Retrenchment?

Formal efforts to involve local communities in natural resource management and promote CBNRM and related approaches in East Africa have been diverse and have included wildlife, forestry, marine, and lake fisheries. East Africa is also characterized by the persistence of long-term community-based resource management systems used by resident communities, such as pastoralists in the Rift Valley from southern Ethiopia to northern Tanzania, and numerous examples of sustainable local forest management in Kenya and Tanzania (Blomley *et al.*, 2008). Major investments have been made by donors during the past twenty years to promote PFM, which includes both joint forest management (co-management) and community-based forest management (CBNRM), in Kenya, Uganda, Tanzania, and to a lesser degree Ethiopia. External donor support has played a major role in crafting natural resource reforms in some contexts, particularly where states are undergoing reconstruction following economic collapse or civil wars (see for example Hurst, 2004, on Tanzanian forestry reforms).

Although reform efforts and local projects designed to promote CBNRM have been widespread in East Africa for the past two decades (Barrow *et al.*, 2000), the degree to which these efforts have translated into more decentralised natural resource management practices, or greater local rights and economic

opportunities, has often been more limited. As Nelson *et al.* (2007) describe in the case of Tanzania's wildlife sector, natural resource governance changes in the region have sometimes worked to recentralize authority over valuable resources even while formal policy and donor rhetoric espouses devolution and decentralisation. Forest management has generally remained highly centralised – with the exception of Tanzania where real progress in community rights over forests (as opposed to joint or collaborative forest management) has been made. Following passage of the 1998 Forest Policy and 2002 Forest Act (Annex 1), Tanzanian villages, which are legally defined local government bodies managed by elected Village Councils, can establish Village Land Forest Reserves. Over the past decade or so, more than 1,100 villages have set aside communal land as protected forests in these locally-governed forests. However, villages have continued to face regulatory and bureaucratic barriers in terms of being able to generate commercial rents from valuable forest products, such as timber, which is widely used illegally by networks of politically and financially powerful outside interests (Blomley *et al.*, in press; Milledge *et al.*, 2007).

In Kenya, natural resources (and particularly forest resources) were used as means to cement and control political power. Forest “excisions”, whereby large areas of forest reserves were de-gazetted and passed onto political allies and supporters, went relatively unchallenged until civil society organisations such as the Green Belt Movement and more recently the Kenya Forests Working Group began to demand greater accountability and benefit sharing at the local level, in line with broader democratisation of Kenyan politics in the late 1990s, leading up to the watershed 2002 general election. Community-based forest management has only recently been possible with the passing of the Forest Act in 2005 (Annex 1). Despite the opportunities this provides for forestry co-management, communities are still limited in their ability to manage forests outside of state-controlled forest reserves because of weak provisions in Kenya's land tenure framework for collective exercise of land rights in most communally-managed areas, and the reality that high levels of deforestation mean that few forests remain on community lands outside state PAs.

As with Central Africa, East Africa generally presents more models of relatively passive community involvement in natural resource management rather than truly devolved authority over wildlife, forests, and fisheries. Barrow *et al.* (2000) and Awimbo *et al.* (2004) categorise these models as PA outreach, collaborative management and community-based management (Table 3) – although as noted above the term CBNRM is rarely used in the East African context.

Local communities and protected area management

Community involvement in natural resource management in East Africa has often been promoted by PA management concerns. In the East African context, this includes well-established PA revenue sharing or benefit sharing schemes as well as educational programmes promoted by park managers designed to increase support for conservation. These outreach programmes are a well-

Table 3. Different degrees of community involvement in natural resource management in East Africa

Type of approach	Examples
PA outreach	Uganda Wildlife Authority (UWA)'s Tourist Revenue Sharing programme has been in operation since the late 1990s, and provides support to a range of community projects such as schools, clinics and other infrastructure projects (Archabald and Naughton-Treves, 2001). Communities are more actively involved in PA benefits – albeit in a limited way – through involvement in community tourism initiatives such as the Buhoma Community Rest Camp in Bwindi National Park (Williams <i>et al.</i> , 2001). Also Tanzania National Parks (TANAPA) and Kenya Wildlife Service (KWS) have shared park revenues with surrounding communities since late 1980s and early 1990s, respectively.
	In Rwanda, the government has recently embarked on supporting a programme of community conservation and PA revenue sharing, very much based on the models developed in Uganda in the late 1990s.
Collaborative natural resources management	Tanzania's 1998 Wildlife Policy calls for devolution of wildlife management to the community level through collaborative NRM (MNR, 1998). This is operationalised through the creation of Wildlife Management Areas (WMAs) on village lands. However, under the current regulatory framework central government maintains wide discretionary authority over wildlife management decisions and benefit capture. Ultimately WMAs have evolved into a form of benefit-sharing, with local authority limited, rather than a mechanism for communities to actively manage wildlife on village lands (Nelson, 2007).
	The Uganda Wildlife Authority has operated a community conservation programme since the mid 90s, a central element of which has been to facilitate regulated access to state PAs for specific natural resources or uses by surrounding communities (Blomley, 2003; Chhetri <i>et al.</i> , 2004; Namara, 2006; Scott, 1998)
	Uganda has also been a leader in East Africa in advancing fisheries co-management and over the past decade have scaled up pilots on Lake George and Kyoga to a national programme which is provided for under new fisheries legislation. Beach Management Units have been established across Uganda's lakeshores and now play an important role in regulating and enforcing fishing effort and illegal activities
	Within Ethiopia's forest sector, there have been a number of donor supported initiatives that have implemented joint forest management across a range of highland forests under central government ownership. Restrictive agreements on the use and harvesting of these forests has meant that to date benefits at the local level have been somewhat limited. However, there have been a number of successful projects that have supported the harvest and marketing of wild coffee from within managed forest areas as well as other NTFPs such as bamboo. (Sembeta <i>et al.</i> , 2007).
	Tanzania and Kenya are also promoting joint forest management between state forest reserves and surrounding communities, through legislative reforms passed in 2002 and 2005, respectively. Joint forest management in Tanzania currently covers about 1.8 million ha of forest land.

Community-based natural resources management	In Tanzania the 2002 Forest Act provides for the establishment of Village Land Forest Reserves which are entirely under the control of village governments. Villages are also entitled to 100% of the revenues from sale of forest products in these community-managed forest reserves, and develop their own management plans and by-laws governing local forest uses.
	In both Kenya and Tanzania communities are able to realise the benefits of wildlife on their lands through contractual agreements and joint venture partnerships with private sector tourism operators.

established element of PA management in virtually all East African countries, and are particularly important in the region given the high macro-economic returns generated from wildlife-based tourism focused on state-managed PAs across much of the region (e.g. \$900 million in total tourism revenue and estimated \$560 million from the northern safari circuit alone in Tanzania in 2008 – see Mitchell *et al.*, 2008). However, with reference to Uganda but relevant elsewhere, Namara & Nsabagasani (2003) note “Community conservation and collaborative management as practiced around PAs in Uganda today do not achieve democratic governance of natural resources. This is because community participation under community conservation and collaborative management does not adequately and effectively translate into community empowerment and control over resources, especially concerning decision making.”

30

A key factor in Kenya and Tanzania is the ecological interconnections between PAs and surrounding private and communal lands due to the seasonal migration patterns of large mammals in these semi-arid ecosystems (Western, 1989). Some of Kenya’s first explicit efforts to develop ‘community-based’ approaches to conservation occurred in the Amboseli ecosystem in the early 1970’s (Western, 1994). Following the creation of Amboseli National Park in 1974, which resulted in its transfer from control by the Kajiado County Council to national wildlife authorities, the government agreed to a range of benefit-sharing measures, including provision of water services and a proportion of park revenues to six surrounding Maasai group ranches (BurnSilver, 2009; Western, 1994).

Tanzania also has a long history of linking PAs with community benefits – TANAPA’s ‘good neighbourliness’ (*ujirani mwema*) programme started in the late 1980s and was designed to give communities a stake in parks, reduce conflicts between park management and local communities, and enhance local benefits (Bergin, 2001). This programme continues through a Support for Community Initiated Projects outreach programme which is integrated into TANAPA’s overall operations, and which is responsible for directing a significant amount of revenue to local communities around the country. In 2007, TANAPA invested 69 million Tshs (roughly \$5.4 million) in these community initiatives, or about 1.8% of its total revenue that year (TNRF, 2008). While these revenues provide important forms of local benefits from PAs, such benefits are not linked or conditional on local actions supportive of conservation, and tend to be viewed as handouts. In addition, tensions between park managers and local communities, chiefly

revolving around the use of resources in parks (e.g. grazing, water, bushmeat) and over boundaries continues to create conflicts that limit the impacts of benefit-sharing and outreach initiatives (Honey, 2008).

Box 9. Private sector catalyzes increasing local economic benefits from wildlife in East Africa

As in Southern Africa, the development of community-based conservation initiatives in Kenya since the mid-1990s has been closely tied to commercial tourism ventures and new market opportunities. Some private landholders and tourism operators, such as Lewa Wildlife Conservancy³, a leading private wildlife/tourism ranch in Laikipia District, have played a central role in catalyzing the formation of a range of expanding community-managed tourism facilities and conservation areas in north-central Kenya (Honey, 2008; Kinoti, 2007). All these local initiatives are premised on developing tourism ventures, either entirely community-owned or jointly with private operators, in order to create new economic opportunities and revenue flows.

In Tanzania, a range of community-private tourism ventures have also emerged, starting in the early 1990s (Nelson, 2004). These ventures have emerged mainly in the northern part of the country, where tour operators have entered into legal contracts with Village Councils. These contracts generally provide for tour operators to be able to access village lands in exchange for set payments by the operator, and villages agreeing to set aside a concession area where they will not farm or settle. Such agreements serve to maintain natural vegetation and prevent land use changes in these ecotourism concessions, while villages maintain full land rights and authority over the areas (Sachedina and Nelson, in press). The direct benefits to communities in terms of wildlife-based tourism revenues from these ventures have been some of the most substantial natural resource-based earnings at the local level in Tanzania's experiences. For example, seven villages in Loliondo Division, adjacent to the Serengeti National Park, earned over \$300,000 between them from such private-village tourism agreements by 2007 (TNRF, 2008).

In Rwanda, a recent venture between a community group and the private sector was launched close to the base of Mount Sabyinyo on the edge of the Park National des Volcans which opened for business in 2007 (charging up to \$700 USD per bed night). The lodge is owned by SACOLA (Sabyinyo Community Lodge Association) who have granted a 15 year lease to a private company to operate the business. The Kenyan company, Musiara Ltd (Governors' Camp), is contracted to pay SACOLA a 'bed-night fee' of \$50 plus 7.5% of income. Between August 2007 and February 2008, SACOLA received US\$34,500. Other benefits include employment, with 70% of jobs currently filled by local people; the hotel buys local produce from the community and the potential for supplying further services and attractions to tourists (Martin, 2008).

31

Traditional Natural Resource Management

The typology in Table 3 is not intended to suggest that local communities did not actively manage natural resources in East Africa prior to these formal processes. There is a long tradition across all countries in the region, as elsewhere in Africa, for customary or traditional approaches to the management of natural resources. Local groups of people across the region possessed a wide array of indigenous resource management systems, most of which were never documented or recorded. Hundreds of years of external dislocations and 'globalization' of resource management – from the inland expansion of the slave and ivory trade in East Africa from the seventeenth through the nineteenth centuries, to the imposition of European rule from the late 1890's – have eroded many local resource governance institutions. Nevertheless many resilient local resource management systems and

3. NB in Kenya the term conservancy has no legal meaning unlike in Namibia where conservancies are clearly defined legal entities

conservation practices remain in place, and are a central element of CBNRM in practice across East Africa.

These include the sacred groves (*khayas*) found along the Kenyan coast, traditional forests in the Pare Mountains of Tanzania and traditional grazing areas managed through transhumant pastoralist land use systems by the Maasai, Samburu, Turkana and Oromo pastoralists (and others) of Tanzania, Kenya, and Ethiopia. A main focus of these management systems is protecting critical communal resources such as water sources and seasonally important grazing reserves. For example, Bassi (2006) describes the way that Borana communities in southern Ethiopia and northern Kenya protect key springs and montane forests through customary measures. Known (by the international conservation community) as CCAs, they are essentially areas where the communities are the primary managers of the resource, they have undertaken the protection and conservation of the resource on a voluntary basis (i.e. they are not paid to do so) and for objectives defined by themselves which range from basic livelihood needs to spiritual and religious concerns (Blomley *et al*, 2007).

In the region's semi-arid lands, pastoralism is based on sophisticated systems of **traditional or customary natural resources management** – based on mobility – which were initiated and are maintained without external support, but which have evolved along different trajectories reflecting differences in the political and legal context between countries (Box 10). Importantly, and similar to the situation in West Africa (discussed below) traditional pastoralist resource management systems probably generate greater economic benefits for local communities and the region's national economies than any 'formal' or centrally-driven CBNRM processes or programs in East Africa. In Kenya, pastoralism is estimated to be worth about \$800 million in milk, meat, and leather production to Kenya's economy (Hesse and MacGregor, 2006) – roughly equivalent to the value of the national tourism industry. Although pastoralism in Kenya and Tanzania is oriented to livestock management, it also benefits wildlife as dry season grazing reserves are effectively un-used by people for extensive periods, and conservation of vegetation is an express local management objective. By enabling the maintenance of wildlife habitats outside state PAs, pastoralist land management practices provide important ecological services, estimated at in excess of \$80 million annually, at the macro-economic level in northern Tanzania (Nelson, unpublished paper).

However, pastoralist resource management systems are under pressure throughout East Africa due to the high value of the wildlife and other natural resources that pastoralist lands support (Box 11). For example, in Kenya's traditionally protected Loita Forest, local Maasai have struggled for much of the past twenty years to prevent the Narok County Council (district level government) from taking control over the forest to develop it for tourism (Karanja *et al.*, 2002). This is a contrast to West Africa where the economic contribution of wildlife and tourism is less important.

Box 10. The role of policy in determining land-use in the Serengeti/Mara ecosystem

Contrasting policy contexts on either side of national boundaries which cut through areas with broadly shared ecological and social characteristics can provide natural experiments to investigate the impact of policy differences. A good example is land-use in the Serengeti/Mara system which straddles the boundary between Tanzania and Kenya respectively. Using long-term satellite data on land use and large scale surveys of policy, demographic change and household economies, Homewood *et al.* (2001) explore the impact of contrasting policies on land use patterns. In Kenya, the policy environment has enabled the privatisation of communal group ranches, and their subsequent subdivision. This policy was in part intended to guard against the perceived negative environmental consequences of agropastoral systems. In contrast, in Tanzania privatisation opportunities have been more constrained, although the government shares the Kenyan belief that agropastoral systems are detrimental to soil, vegetation, and biodiversity conservation. The analysis reveals that in fact wildlife numbers have declined dramatically in Kenya, as a consequence of private landowners converting their ranches for mechanised cereal production. In contrast, wildlife numbers have not declined significantly in Tanzania over the same period. The analysis controls for changes in human population, uptake of cultivation by households, agropastoral land use and climate, suggesting the policy difference as an important driver of land-use change. Interestingly, in-depth research to explore the decision making processes underpinning these findings revealed that Kenyan landowners were reluctant to use their land for wildlife-based activities because of the selective capture of returns by local and national elites, making cultivation a more secure option.

Source: Homewood *et al.* (2001)

Box 11. Local collective resource management traditions and institutions under threat in East Africa

33

In Tanzania, CBNRM is at the centre of broad tensions amongst different actors regarding rights over land and natural resources, largely due to weaker local land rights than exist in neighbouring Kenya. Because of the value of wildlife resources for tourism and hunting (the latter banned in Kenya since 1977), pastoralist areas continue to be subject to intense pressures from central government and external investors. Central authorities have extended control over revenues generated by tourism ventures on community lands, thereby potentially reducing the revenues communities are able to capture from these enterprises and reducing local incentives for conservation (Nelson *et al.*, 2007). Similarly, the narrative for reform as laid out in the 1998 Wildlife Policy has not developed, and WMAs have been gradually transformed from a potential mechanism for devolved local management of wildlife on village lands, to a system of revenue-sharing in exchange for communities to set aside large areas of their land for wildlife (TNRF, 2008). The involvement of local communities with wildlife management and tourism benefits in Tanzania needs to be viewed within this context of complex political contests over valuable resources and the revenues they generate (Nelson and Agrawal, 2008).

In Ethiopia, traditional pastoralist land management regimes cover much of the southern half of the country but are not formally recognised (Bassi, 2006; Tache and Irwin, 2003). Pastoralist lands in semi-arid southern Ethiopia have faced continuous threats of land loss and encroachment, with the most recent example being a surge of allocations of land for biofuel (mainly *Jatropha curcas*) production (Cotula *et al.*, 2008). This scramble for land for the production of *Jatropha* poses challenges for farmers and pastoralists in semi-arid areas across East and West Africa.

In Ugandan rangelands, pastoralism is again the main economic activity but decades of government policy has promoted sedentarisation and the creation of privately owned ranches. It is now only in the Karamoja region of north eastern Uganda where such traditional land management practises can be said to continue more or less intact. (Jabs, 2007)

3.4 Southern Africa: Democratisation, devolution, wildlife management, rural development

CBNRM approaches fuelled by democratisation and private landowner experience

Innovative decentralized approaches to wildlife management that emerged in Southern Africa starting in the 1960's have played a key role in the development of CBNRM throughout the region, and influenced CBNRM across sub-Saharan Africa (Suich *et al.*, 2009). CBNRM built on institutional reforms that occurred in Namibia (then South-West Africa), South Africa and Zimbabwe in the late 1960's and early 1970's, whereby private landowners were given rights over wildlife on their land. Balint and Bond (submitted) note that this "represented a radical departure from the preservationist paradigm that had guided wildlife management for more than half a century". These reforms, coupled with other factors including drought and the removal of livestock subsidies, led to widespread wildlife recoveries on private lands as a result of the economic incentives that were created for landholder investments in wildlife as a form of land use, coupling ecological recovery with economic productivity at the local and national levels (Child, 2004). The extension of devolved or decentralized natural resource management to communal areas from its initial piloting in freehold white-owned lands under minority regimes resulted from political changes in the region – namely, the extension of suffrage to the rest of the population, which occurred in 1980 in Zimbabwe, 1990 in Namibia, and 1994 in South Africa. In addition, the hunting ban implemented in Kenya had an important impact on the economic value of wildlife, as trophy hunting was not previously considered to be viable south of the Zambezi.

34

Thus, unlike the other regions of Africa, CBNRM in Southern Africa does not include a component that is strongly linked to PAs. Rather, it tends to be based, at least conceptually if not always in practice, on a foundation of common property theory which recognizes that there is a strong relationship between local investments in resource stewardship and proprietorial rights to the resources in question (e.g. Murphree, 1993). Exceptions are Mozambique and South Africa. Mozambique has significant resident populations in its PAs and so has been developing a range of co-management options, and like East African countries has seen heightened tensions between local, private, and state interests in natural resource management following the flurry of reforms carried out in the mid-1990's after the end of civil war (Nhantumbo and Anstey 2007). In South Africa, with most resources enclosed by private lands or state PAs, many community-based initiatives focus on co-management, benefit sharing, and innovations such as "contractual parks" (Box 12).

Overall, however, and as noted above, within the Southern Africa region, the term CBNRM refers very specifically to approaches where the explicit objective of natural resource reforms is the devolution of authority from the state to defined groups of resource users on communal land. A typical approach has been to establish (or strengthen) community-based organizational structures that are

Box 12. Contractual parks in South Africa

One innovative conservation mechanism which has been popular in South Africa since the 1980s is the contractual park (Reid & Turner, 2004). These parks are established on land owned privately, either by individuals or community groups, which are then managed by the national conservation authority and effectively become part of the national PA estate (Reid, 2002). Management of contractual parks is carried out in accordance with a joint management agreement devised by a board comprising representatives of both the landowners and the conservation authority (Reid, 2002). The conditions under which such parks have been established are diverse. These include creating incentives to landowners neighbouring existing PAs to bring their land into the PA without transfer of title (e.g. Addo Elephant National Park), establishing new PAs on community land (e.g. Richtersveld National Park) and returning title to community groups formerly evicted to make way for the establishment of PAs (e.g. Makuleke land claim; Child *et al.*, 2004). The latter two examples are particularly informative and worth considering in more detail.

The Richtersveld National Park is the country's only entirely contractual National Park. It is a remote desert area, with around 6000 livestock herders living in the park. Under the contract with South Africa National Parks (SANParks) the residents receive rent for the land from SANParks, which is paid into a community trust. Income and employment from touristic activities in the park has been slow to materialise in the region, largely due to its remoteness and lack of 'big five' game animals. However, the park "occupies a central place in Richtersvelders' view of their community assets and their plans for the future" (Reid and Turner, 2004). Co-management of the park has nonetheless been complicated by ethnic and political divides between park residents, who are highly diverse and drawn from a very large area (Grossman and Holden 2009; Reid and Turner, 2004).

The Makuleke region of Kruger National Park (KNP) was established in 1969, when the Makuleke people were evicted to allow KNP to be expanded. In 1996, following the establishment of the new democratic government, the Makuleke people reached an out of court settlement with the National Parks Board which granted transfer of title for 20,000 hectares of land back to the evicted community on condition that conservation activities continue on the land for 99 years, with no residence or agriculture. The land claim is managed under a Communal Property Association (CPA) established in 1999, which has leased the area to SANParks for 50 years. All conservation activities are the responsibility of SANParks, which does not pay ground rent to the CPA. However, the CPA has the rights to commercial and cultural activities, which are very valuable given the touristic activities in the area (Reid and Turner, 2004).

Experience of co-management within contractual parks in South Africa has been mixed. Joint Management Boards have functioned fairly well, but have been hampered by the power of SANParks representatives, who have little time to give to the parks. The Makuleke land claim has generally functioned well (Grossman and Holden, 2009), but there has been conflict between the traditional chief and the new, democratic CPA which has tenure of the land claim. "Unfortunately, the different family and political differences play themselves out by using these 'overlapping' development roles to suit different individual agendas" (Collins and Snel 2008). In this case the traditional royal family received a lot of benefits from the CPA. This might appear an example of 'elite capture' of benefits, but most people in the community were content with the situation and felt the royal family were the rightful beneficiaries. (Collins and Snel, 2008).

Contractual parks appear to make a contribution to conservation objectives, and also provide landowners with considerably greater benefits than are normally available to park-adjacent communities. However, they are rarely profitable and typically require some form of subsidy from central government or other parks. Nonetheless, Reid (2002) argues that these failings are more a problem of implementation than of concept, and that contractual parks "contribute much towards meeting conservation and development objectives, and successful joint management should rather be defined as a process which facilitates an equitable power balance between the landowners and conservation authority, through which the social and economic objectives of the landowners, and the ecological and economic objectives of the conservation authority are met".

legally recognized, and to grant those local groups conditional rights over natural resource use and management, including commercial uses that involve third-party leases or joint ventures partnerships. In Botswana, for example, CBNRM mobilises local communities to form legal trusts so that they can obtain quotas from the wildlife department and land leases from District Land Boards, and thereby enter into joint venture agreements for trophy hunting or photographic tourism access agreements with the private sector (Jones, 2004a).

Wildlife conservation integrated with local land management and rural development

CBNRM in Southern Africa has been firmly rooted in wildlife management (Table 4), with income that could be earned from tourism and trophy hunting providing the main economic incentive for rural communities to invest in wildlife as a form of land use, improving local economic options and extending the amount of land used for wildlife across the region to communal areas. At the core of CBNRM initiatives has been a widespread recognition amongst policy-makers in southern Africa that for wildlife to persist outside PAs on private and communal lands, it must be an economically competitive land use option for landholders, and if it is not it will be replaced by agriculture and livestock (Child, 2004). Programmes such as CAMPFIRE in Zimbabwe have been able to bring together a diverse array of policy-makers, scholars, and development and conservation organizations around the agenda of enhancing wildlife's local economic value and strengthening local resource proprietorship (Jones and Murphree, 2001).

36

More recently, a broader range of natural resources have been included such as forestry, Veld products, water, and fisheries (Arntzen *et al.*, 2007). In addition, the rural development potential of CBNRM has been increasingly recognised and mainstreamed in much of the region. In some cases this has been a result of the source of funding (e.g. if derived from a development agency with poverty reduction as its core objective) but in other cases national development and poverty reduction strategies have emphasised the role of CBNRM in achieving social objectives. Indeed, the predominant centrality of state wildlife agency bureaucrats and foreign donors in driving CBNRM reforms- as opposed to "bottom-up demand" from citizens- is a salient feature in the region (Nelson and Agrawal, 2008).

In particular, some countries have begun to devolve rights over forest resources to local community institutions although this has generally been restricted to the use of NTFPs, with access to valuable timber resources retained by the state (Jones, 2004a). In Botswana, for example, only 24% of forest land is under community management compared to 71% of land overall (Nhantumbo 2007). Shackleton *et al* (2000) note that although the income generated by NTFPs is marginal compared to the returns from trophy-hunting or tourism, it can be a critical livelihood support. Moreover, given the sheer number of people who generate some benefit from NTFPs compared to hunting or tourism, the cumulative economic impact is often under-estimated.

Table 4. Examples of large-scale CBNRM programmes in Southern Africa

Country	Programme	Comments
Botswana	Formation of wildlife trusts	Started in 1989. Initially driven by USAID Natural Resources Management Project (NRMP) II. Sources of income: both hunting and tourism contracts. It is estimated that there are now over 100 community wildlife trusts.
Mozambique	Multiple programmes	Diverse local initiatives emerging following end of civil war in early 1990's and policy and legislative reforms in land and forestry and wildlife sectors. Substantial donor support since that time. Initiatives tend to be local, somewhat decentralized projects (e.g. Chipanje Chetu in Niassai Province and Tchuma Tchato in Tete Province).
Namibia	Communal Conservancy programme	Initial community initiatives in the 1980s led to formal development of CBNRM in wildlife policy process in early 1990's. Legal changes to enable formation of community conservancies passed in 1996 and first conservancy gazetted in 1998. Long term support since early 1990's provided by USAID. Formation of conservancies on communal land with rights over wildlife. Diverse sources of income including hunting, tourism, and non-timber products.
Zambia	Administrative Management and Design for Game Management Areas (ADMADE); Luangwa Integrated Resources Development Programme (LIRDP)	ADMADE national programme initiated in the mid-1980s and supported by USAID and government wildlife agencies. Revenue-sharing scheme focused mainly on Game Management Areas (GMAs). LIRDP initiated in the Lupande GMA in 1988 with Norwegian support aimed specifically to link wildlife revenues with integrated rural development in the Luangwa Valley.
Zimbabwe	Communal Areas Programme for Indigenous Resources (CAMPFIRE)	Legislative reforms enabling granting of authority over wildlife to Rural District Councils passed in early 1980's after independence. CAMPFIRE programme design produced in 1986 and implementation started in 1988 and subsequently backed by USAID. Rights over wildlife decentralized to Rural District Councils. Main source of income from contracts with trophy hunters. Economic and political uncertainty placed severe constraints on community-based organisations and locally developed institutions but recent experience of resource rights agreements demonstrating considerable strength and resilience of these organisations.

Box 13. CBNRM linking conservation and development in Southern Africa

"The conceptualisation of CBNRM as a mechanism for wildlife conservation in southern Africa has changed over time, particularly driven by the provision of large-scale donor support" (Roe *et al* 2006). In Namibia, for example, community-based wildlife conservation was pioneered in the mid-1980s in response to poaching- particularly of elephants and black rhinos. A community game guard programme contributed to addressing this problem and this was supplemented by experiments in wildlife tourism to generate income for local people and provide an additional economic incentive for conservation. Jones (2004a) notes, however, that with the advent of external donor support the objectives of CBNRM began to change: "A USAID-funded US \$14 million support programme for CBNRM started in 1993, known as the Living in a Finite Environment (LIFE) Programme. The establishment of the LIFE Project and the relationship with USAID brought a new set of agendas to CBNRM in Namibia. The language of the LIFE goal and purpose began to shift the agenda for CBNRM more towards rural development goals than conservation goals" (Jones, 2004a).

Linkages with the private sector

The private sector is very strongly linked with CBNRM in Southern Africa, particularly because so much of formal CBNRM in the region is based on commercial uses revolving around wildlife, principally tourism and tourist hunting, and commercial ventures that are usually operated by the private sector. The CAMPFIRE programme in Zimbabwe, for example, has relied on the tourist hunting industry for more than 90% of its total revenues (Frost and Bond, 2008). It is often argued that the private sector has an important role to play because CBNRM projects usually depend on commercializing resources in some way, and private sector actors are best placed to do so (e.g. Collins and Snel, 2008; Madzudzo *et al.*, 2006). Some commentators have, however, expressed concern at the level of private sector involvement in some areas given power and information asymmetries, as well as potentially divergent interests between private and local actors (Madzudzo *et al.*, 2006). Wolmer and Ashley (2003) for example, note that private sector engagement can result in more benefits accruing to local elites rather than the poor. This raises questions about how to evaluate the trade-off between improved opportunities for some versus less equality for many. The phenomenon of "elite capture" – and whether private sector involvement, particularly through joint ventures, exacerbates this, is discussed in the next chapter.

Exceptions and anomalies

Although broad trends can be discerned within Southern Africa in terms of the overall development of CBNRM – e.g. large-scale national programmes, a focus on hunting and wildlife tourism, devolution of authority to new community-based organisations – the region also exhibits a number of significant differences. Mozambique stands out as a case in point- a Portuguese-speaking contrast to its Anglophone neighbours – the post-independence Marxist government nationalised all land – but private and community land use rights are equal in law, unlike the other countries in the region. Also Mozambique's extensive forest estate has meant that CBNRM initiatives have tended to be forest-based rather

than the wildlife and tourism focus of the rest of the region (Nhantumbo and Anstey, 2007).

South Africa also stands out as an unusual case in the region. Here CBNRM is commonly associated with local community claims for land restitution – particularly in areas where land was taken for national parks (Arntzen *et al.* 2007). In many cases where land in PAs is claimed, a “contractual park” is established as a form of co-management, as detailed in Box 12.

Box 14. Is Namibia a model for CBNRM?

One of the best known African examples of community-based wildlife management is Namibia's communal conservancies. Reforms providing for the establishment of communal conservancies were passed in 1996. These reforms enabled the residents of communal lands to form a local organization, defined by a governing constitution, membership, and land area, and to apply to the government for user rights over the wildlife therein. Since the late 1990s, the number of conservancies has increased rapidly, with approximately 50 in existence by 2007, covering 118,704 km² of land, or about 14.4% of the country. By 2007 these areas generated over US\$2.5 million of revenue from wildlife-based activities such as tourism and tourist hunting. Wildlife populations have widely recovered in these conservancies, including rare species such as black rhinos and predators such as lions (NACSO, 2008).

A number of aspects of the Namibian CBNRM model are particularly salient for the design of CBNRM initiatives. First, the rights granted to communities over wildlife are relatively broad and secure; these rights are conditional and can be revoked but they are not term-limited. Second, there is no “middle-man” between communities and the private sector; third there is no local or state government “tax” on the revenue earned – 100% of benefits from wildlife are retained locally; and fourth, the programme had a long history of development prior to the involvement of external actors and donors (Balint and Bond, submitted).

However, a key question that emerges from CBNRM in Namibia, is that given the empirical success of the country's wildlife management approach (NACSO, 2008), why have equivalent rights over wildlife not been devolved to local communities anywhere else in Southern Africa, or East Africa for that matter? Are there particular contextual factors that have enabled rights over wildlife on communal lands in Namibia to be devolved? In addition to favourable bio-physical characteristics (low population density, high aridity favouring wildlife over crop agriculture) Nelson and Agrawal (2008) argue that key factors in the Namibian experience in terms of enabling key CBNRM reforms have been a) relatively low levels of institutional corruption in Namibia which reduces policy-makers' incentives for withholding authority over valuable resources; b) relatively low centrally-captured revenues from wildlife uses (e.g. tourist hunting) on communal lands, which also reduces central incentives for maintaining control.

In addition, many observers (e.g. Jones and Murphree, 2001) have pointed out that the foundations for wildlife management reforms in Namibia providing for communal conservancies were laid by the earlier devolution of rights over wildlife on private freehold lands in the 1960's. Following the onset of majority rule and independence from South Africa in 1990, there was both a political imperative and an opportunity that had not previously existed to extend devolved rights over wildlife to communal lands. It is worth noting that this political context, which was central to CBNRM's subsequent emergence in Namibia, is one that is unlikely to be repeated in other countries and raises important questions as to how applicable the Namibian example is elsewhere. Nevertheless, Namibia's CBNRM legislation itself is transferable and provides a useful model for devolving substantial rights over wildlife and wildlife-based revenues – presuming that the political will can be found to fully empower communities in the first place.

3.5 West Africa: Land tenure, pastoralists, decentralisation, co-management

Decentralisation of land

In West Africa, CBNRM is underpinned by land tenure. Most West African economies are highly dependent on natural resources (agricultural products, such as coffee, cocoa and palm oil and cotton, and oil in Nigeria), which are regarded as having the strongest potential to be a motor for West African economic development. As West Africa's population continues to grow rapidly (at 2.6%, with the population estimated to reach 400 million by 2020 (ECOPAS, 2007), land rights are already politically and economically very important in many countries, and this is likely to increase. Where land and resources are valuable, they have often been made the property of the state, or are protected from community use by state legislation (such is in the case of valuable timber stands; (Ibo, 1997), which can hinder the development of CBNRM. Although land decentralisation policies in West Africa go a long way to re-establishing community management and authority over natural resources, the state generally retains control.

40

The land management and tenure systems of West Africa have their roots in colonialism, during which French and English colonial policy in the region generally gave the state centralised authority over all unregistered or common lands (the exception being in Liberia and Sierra Leone where colonial authorities left the 'usufruct', community tenure laws intact during colonial rule; (IIED, 1999). In many cases, land tenure and management became even more centralised following Independence (e.g. the State Land Act of 1962 in Ghana (Alhassan and Manuh 2005) the 1968 decree in Mali (Hilhorst and Coulibaly 1998), and the 1960 decree in Cote d'Ivoire (Stamm 2000). However, weak implementation and enforcement of these laws meant that a pluralistic land management system – a mixture of traditional and government tenure laws – evolved and has tended to dominate until the present day, creating a multifarious land tenure and management environment, which has sometimes led to conflict (e.g. land conflicts in northern Cote d'Ivoire (Chauveau, 2000; Stamm 2000)). In the last 10 – 20 years most countries in West Africa have moved towards more formal decentralised system of land management, with land registration and decentralisation decrees, supported by high levels of international donor investment, including the World Bank and the United Nations Development Programme (UNDP) Global Environmental Fund, a number of EU governments (especially the Swiss, French and Netherlands), and national and international NGOs. Current land management policies for each country (where available) can be found in Annex 1 of this report.

In Francophone countries the main method has been the *Gestion de Terroirs* approach (Box 15), widely supported by international development agencies, which gives communities the legal right and the tools to manage their own land. The *Gestion de Terroirs* approach was a response to the failures of earlier

technocratic and managerial approaches to development (Batterbury, 1998) and its emphasis on the creation of locally meaningful socio-spatial units of environmental management (Painter *et al.* 1994) reflects an international paradigm shifts towards 'grassroots' development and the decentralisation of resource management. It generally comprises the following stages:

- Clarification of land tenure. Existing land tenure structures are recorded at a village level. At this point land disputes and village input can be heard and recorded, and the current village/clan/family boundaries mapped.
- Creation of new regional and village councils, to provide the administrative structure for decentralisation; generally established through Government decree.
- Enhancement of local management capacity, including the preparation of village management plans/ local development plans, micro-financing for development and training of both village, district and regional authorities, and continuing support for village decentralisation through district authorities.

Box 15. *Gestion de Terroirs* in practice

***Gestion de Terroirs* at the national level**

The situation in Mali provides a good example of how *Gestion de Terroirs* is operationalised at the country level. Here, a programme of decentralisation was implemented following a change of government in 1991. In 1995 local communities were invited to participate in reviewing the legislation on land and water management in Mali (Ogier *et al.*, 2001), and in 1999 a government decree made decentralisation practically operational. Two important articles in the 1999 decree are:

- Article 11: local governments are responsible for managing, developing and conserving their estates, and for protecting the ecological balance of their land
- Article 14: local governments may delegate power to village authorities, interest groups and neighbourhoods that have an established rural management structure (Ogier *et al.*, 2001).

Although management authority and decision-making is devolved to local authorities and villages through this process, the land is still legally the property of the state, and the new system should be described as one of co-management. 700 new communes (administrative units comprising several villages) were created, and the first municipal elections held. Rural councils were established, each with its own major (Ogier *et al.* 2001). The Pastoral Charter of 2001 also recognises the role of local village institutions in conflict resolution (Winter, 2000). In order for power to be legally devolved, village authorities are required to produce a management and development plan, approved by government, and to be implemented through management contracts with the local council and the village organisation. This is an area where government or donor support for villages is in great need for the system to succeed. Fortunately there are a number of projects running in Mali (both government and NGO led) which aim to support village institutions with the decentralisation process, and feedback on progress has generally been positive.

***Gestion de Terroirs* at the community level**

An example of the benefits of *Gestion de Terroirs* approach in practice is provided by efforts to promote community-based management of fan-palm ecosystems in Niger. In south-western

Niger fan-palm groves play a principal role in the local economy, and are at the core of the region's agricultural and pastoral activities, providing many human and animal foodstuffs as well as products for the manufacture of furniture and fishing gear, for medicinal use, and for bee-keeping. Prior to the introduction of the *Gestion de Terroirs* approach, the palm groves were state managed with no benefits accruing to the local community. As one village chief put it: "The palm groves will never be protected if the people living in them are ignored." The new approach resulted in the gradual development of a new institutional framework for the decentralised and community-based management of natural resources. Substantial results have been achieved:

- Twenty-six local management agencies (SLGs) now handle the planning and autonomous management of the resources in their terroir.
- Over 3,000 hectares have been regenerated thanks exclusively to the communities' own efforts over the past five years.
- 59 environmental protection crews, employing over 310 workers, are responsible for protection and surveillance activities in the fan-palm groves.
- Participation by the local inhabitants in the process of palm wood marketing has led to improved performance and higher earnings with over 15 million Central African Francs (FCFA) generated.

The *Gestion de Terroirs* approach has also been implemented within the management plan of W Park (a transboundary PA, straddling Niger, Burkina Faso and Benin). The EU Ecosystèmes protégés en Afrique Soudano-Sahélienne (ECOPAS) programme has carried out social sciences studies in the PA's periphery to understand the structure of village networks and ensure that the buffer zone's management units would complement local socio-political structures (Casti 2004; de Visscher and Ancey, 2001). *Gestion de Terroirs* has not, however, been appropriate to address the issue of pastoralism in the Park and the ECOPAS programme has developed another participatory land management approach, more compatible with seasonal land use (Fournier and Toutain 2008).

Elsewhere, land registration (e.g. Ghana's 1986 *Compulsory Land Title Registration Scheme* (Alhassan and Manuh 2005) , and Cote d'Ivoire's influential 1967 decree which granted land ownership to those who cultivated it (Stamm, 2000)) has been used as an alternative method. However, in practice, very few land title requests have been processed: In Ghana between 1986 and 1990 five thousand applications were received but only 148 processed (Alhassan and Manuh, 2005); see Annex 1 for details of land tenure legislation by country.

Some countries, such as Senegal and Mali, adopted a policy of decentralisation as early as the 1970's, and have therefore had time to set up the administrative structures and policies required for regional and local land management to be effective. Other countries, such as Ghana and Benin, have only recently embarked on decentralisation policies, and currently the infrastructure and training required at the regional and local level for these policies to be carried out effectively are weak or non-existent.

International agencies, such as the World Bank, together with national governments, have been setting up programmes to build capacity for decentralisation in West Africa. These generally help villages to map and register land, produce village management plans, provide micro-financing for village development projects, and provide training in sustainable resource management. Examples include the World Bank-funded 'Community Based Rural Development

Project' in Ghana which has been providing infrastructure and support for decentralisation and rural development since 2004 (World Bank, 2008c); the 'Rural Land Management and Community Infrastructure Development project' (PNGTER) in Cote d'Ivoire, which is intended to empower communities, stimulate local investment and facilitate sustainable management of natural resources and rural infrastructure (World Bank, 1997); and the Support to Decentralised Collectives for Participatory Development (ACODEP) programme in Mali which is intended to build local management capacity within farmer organisations (Toure, 1998).

Pastoralists, decentralisation and land tenure

Livestock is critically important to West African economies. In the Sahel, livestock production constitutes 40% of agricultural GDP, and if labour and organic manure are counted as livestock products, this increases to nearly 50% (ECOWAS and SWAC/OECD, 2008). Despite the importance of livestock for the regional economy, and the prevalence of pastoral production in the sector, pastoral land tenure and mobility in East and West Africa is a complex and generally poorly understood issue. Decentralisation impacts pastoral land tenure in two ways: on the one hand, it is the means by which governance structures are regionalized and localised, and properly implemented can promote local participation, dialogue between land users, and responsibility for natural resources. On the other hand, pastoralists are often poorly represented on local governance structures and may not be present in the area year-round. Decentralisation also sub-divides the national domain into smaller territorial units, which "create" physical, administrative, or financial barriers to livestock mobility. This can lead to a multiplication of laws and regulations governing livestock mobility and reduce access to natural resources (Benjaminsen and Lund 2001; Hesse and Thébaud, 2006; Thébaud, 2006).

The movement of animals is a key strategy for pastoralists across West Africa. The challenge for land tenure is to create policy and legislative frameworks that can provide mechanisms for negotiation among land users, and are sufficiently flexible to allow the access to grazing and water resources that pastoralists require at certain times during the year. While in East Africa the major challenges for pastoral land tenure and mobility are linked to wildlife conservation and tourism, in West Africa the key element of many land tenure policies in the Sahel is the concept of *mise en valeur*, or the requirement to put land to productive use in order to retain rights. This is particularly problematic for pastoralists, as definitions of productive use are often based on cultivation and the establishment of infrastructure, e.g. the tilling of fields, digging wells, putting up fences etc. Pastoral land use does not lend itself to these kinds of requirements and so a broader definition of *mise en valeur* which takes into account mobile livestock production is necessary (Thébaud 2002).

Although legislation and policies to facilitate pastoral mobility are still weak, some progress is being made. For example, the establishment of livestock corridors is one approach to facilitating mobility, and throughout West Africa governments

and donors have invested in the identification and demarcation of these livestock routes (Bonnet *et al.*, 2007). Another important advance is the increasing recognition of the need to link land and water rights. Control over access to water points has direct implications for grazing. This is often poorly addressed in land use policy and legislation which tends to be sectoral, focusing either on land or on water (Thébaud *et al.*, 2006). As a result, policies can sometimes contradict and undermine one another. In Niger, however, an innovative Rural Code states that herders have a right to use rangelands in common and that herders can obtain recognition of priority rights on their home areas (*terroir d'attache*). This includes both land and water rights. Outsiders may gain access to water and grazing resources on the basis of negotiations with the right holders. Through this innovative legal concept, the Rural Code seeks to build on the traditional resource management systems.

In dryland areas of Mali, competition for resources and the erosion of pastures has increased significantly in the last five years, creating severe livelihood impacts for pastoralist herders. These problems for herders have been exacerbated by the Malian policy of decentralisation, as common property resources have become village-managed and therefore restricted access (Bocoum *et al.*, 2003). In response to this, two NGO's in Mali, the Near East Foundation (NEF) and SOS Sahel, operating in the Mopti region, have recently set up projects to incorporate the needs of herders into district management plans. This has included the production of herder maps, quantifying herder land use in the district, inter and intra village meetings to discuss disagreements and possibilities for communal land use, and in some cases the reinstatement of transhumance routes, with the authority of district officials (Bocoum *et al.*, 2003).

Box 16. Local conventions – an innovative approach to CBNRM in West Africa

An important tool for establishing rules of access to and use of natural resources in several Sahelian countries of West Africa has been the 'local convention'. These can be defined as "agreements, written or oral, negotiated between two or more groups of actors, defining management and use rules for land and/or natural resources found in a given area" (Yeye *et al.*, 2009). These conventions are frequently implemented as part of the *Gestion de Terroirs* approach. Their implementation varies, but typically involves the production of an inventory detailing all natural resources and their users, followed by negotiations between stakeholders to establish rules governing access. These negotiations are expected to be participatory, involving all local stakeholders. Local conventions have been widely used in areas in which widely divergent land use practices take place, such as transhumant pastoralism and agriculture. Conflict over access to resources such as water is common in such areas, and local conventions are intended to reduce such conflicts, often by establishing livestock corridors which enable pastoralists to move through farmland (Wehrmann, 2008). In some cases (e.g. examples from Burkina Faso) agreements do not involve any state actors, and can be written or unwritten (Yeye *et al.*, 2009). In others, state actors (e.g. the Forestry Service for the Siwaa convention in Mali) are parties to the agreement. Local conventions have had mixed success, often being delayed by disputes during their formulation and implementation (Hilhorst and Coulibaly, 1998).

Forest management – continued state control

Forestry is a major industry in many West African countries, and the value of timber and charcoal results in more centralised management of forest resources than seen for general land management. In the mid 1900s, when the demand for timber was increasing rapidly, many West African governments protected timber stands within forest reserves and *fôret classée* / *fôret protégée*⁴ which prevented local use, but allowed commercial extraction.

Nevertheless, moves towards decentralisation are resulting in some new forestry co-management arrangements between communities and the state. In Mali, for example, forests are managed by local committees and forest revenues are shared with local communities as part of the overall decentralisation policy (Ogier *et al.* 2001). In Ghana, communities receive 25% of taxes on forest use as a result of decentralisation (compared to 10% before decentralisation; Kasanga and Kotey, 2001, see Annex 1 for further information on community forestry laws by country). Elsewhere, although the theoretical framework of decentralisation provides authority for forest management at the local level, in practice the barriers to implementation are high (Box 17). In Senegal for example, the forestry code attributes significant powers over forest exploitation, use and management to Rural Councils, although in practice the Rural Councils are unable to exercise their formal legal authority on forests exploitation and the rural communities remain unable to benefit from commercial forest exploitation (Ribot, 2008).

45

Wildlife – slow progress on devolution

The involvement of pastoral communities in the management of wildlife/livestock interactions does not occur in West Africa in the same way as it does in East Africa. The problem is that pastoral populations have little experience of managing wildlife interactions because their “historical” rangelands were in areas with low wildlife density. Furthermore, PAs still tend to be focussed on strict wildlife protection rather than sustainable use and very rarely have governance structures emerged that allow community participation. A review of community-based wildlife management in West Africa (Zeba, 1998) highlighted a paucity of initiatives in the region and suggested that most projects were developed by state institutions, which then engaged community participation, rather than being community-driven. However, due to changing climatic conditions and socio-political pressures (such as land tenure conflicts), pastoral areas in Western Africa are increasingly moving south to where the main PAs are located (Boutrais, 2008).

4. “Forêts classées” and “Forêts protégées” are protected areas, in terms of the IUCN categories and are part of the State Public domain. “Forêts classées” are managed by the State service, and are protected from any “production objectives” (extraction), due to their classified status. “Forêts protégées” are also part of the State permanent domain, but recognise land use rights and customary rights, except for clearing, bush fires and commercial logging (in most cases, the hunting rights issue is not addressed by the legislation). The “Forêts sacrées” (sacred forests), were legally initially part of the “Forêts protégées” State domain, but management has been devolved to a local group or a village community for a special or sacred protection. In this case, communities have customary land use rights. The “Forêts sacrées” status indicates clearly a willingness to involve local communities in the management, and the classification process is made jointly by the state and the concerned communities.

Box 17. Co-management of forests in Cote d'Ivoire?

In 1912 the first National Forestry Service was set up in Cote d'Ivoire, and, as was the policy in Francophone West Africa at the time, this brought with it the gazettement of large areas of forest (known as *foret classe*). These areas of forest were legally guarded against all settlement or harvesting of timber or other forest products with the aim of preserving forest and allowing the regeneration of degraded forests (Ibo 1997). By 1951 gazetted forests covered 25% of the remaining forest area. However, under the 1967 decree of 'The land to those who cultivate it' forests were rapidly occupied and cleared. In the 1970s and 1980s approximately 300,000 ha was being cleared annually (Ibo 1997).

In an attempt to reduce the rate of deforestation, the State Forest Department (SODEFOR) embarked on a 'forest co-management' strategy in 1994. This set up 'Farmer Forest Committees' within state owned forests. These are represented within regional committees which decide on land use and management within the gazetted and state-owned forest. The forest is divided into different 'zones', including an agricultural zone, where farmers are permitted to farm, but not to clear land. These zones are generally areas where villages are already in existence, or forest is already severely degraded, and the allocation of these zones can involve the re-settlement of communities. Farmers are then offered 10-year leases on this land.

However, government commitment to make this co-management strategy work appears to be weak: local level planning must also be approved by national meetings, which are held in the capital, precluding many Farmer Forest Committees from attending. In addition to this very few meetings have taken place since the inception of the co-management strategy (Kesse, 2002).

46

This places a new urgency on the need to include pastoralist communities in wildlife management and conservation programmes in the region, and changes are beginning to occur. In Benin, for example, a co-management strategy has been developed for Pendjari Biosphere Reserve in conjunction with the 30 villages located with the buffer and development zone of the reserve and is now operational (GTZ, 2008). Communities participate through 'the Villagers' Association for the Management of Wildlife Reserves' (AVIGREF). The PA complex is supported by a Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) led project and the project has been leading in the development of pilot approaches involving local communities that were influential in the framing of a new legislation (Loi 2002-16 adopted in 2004) opening the door to local participation in management and benefit sharing (GTZ, 2008; Yves Hausser pers comm.). The United Nations Environment Programme (UNEP, 2008) also reports that in the buffer zone of W Regional Park a regional agreement involving pastoralists from Niger, Burkina and Benin, and ratified by Livestock Ministries of these three countries, has set up new zoning arrangement for pastoral activities. Other potentially important new developments in the region include the World Bank-funded West Africa Pilot Community-Based Natural Resource and Wildlife Management Project (World Bank, 2005), which aims to introduce community PA and wildlife management strategies to the region, and the Community Resource Management Area (CREMA) projects in Ghana (Box 18). Community PAs have also been established under the Community Protected Areas Initiative (CPAI), set up by the Nature Conservation Research Centre (NCRC) in Ghana (NCRC, 2008). There are currently six sanctuaries which are owned and controlled by traditional leaders and community representatives.

One limitation for wildlife-based CBNRM is the limited potential for ecotourism which often provides the economic incentive for local management efforts in other regions. Unlike Southern and Eastern Africa, infrastructure for tourism in West Africa is poor, wildlife less visible, and wildlife habitat accessible often only by foot – thus often taking days before target species are spotted. Exceptions include the Community-Based Ecotourism Project and the CPAI Weichau Community Hippo Sanctuary in Ghana, and the community-based game ranching

Box 18. Devolution of authority over natural resource use in Ghana

An important experiment in devolved authority over resources is the CREMA concept in Ghana, established under the Collaborative Community Based Wildlife Management policy of 2000 (Annex 1). These areas are established through agreements between communities and the Wildlife Division of the Forestry Commission with the aim to assist communities to manage natural resources in their own forests. Participating communities are given full authority to control access and harvesting of resources within their management area. Each CREMA has an Executive formed from Community Resource Management Committees, which themselves are formed of individual farmers or land holders. The CREMA process has been supported by UNDP Global Environment Fund (GEF), European Commission, Dutch Government, CARE International and other organisations. To date, the project has surveyed and demarcated over 200,000 hectares of traditional community forest, and is currently in the process of obtaining formal transfer of authority for the management of the areas to the local communities (UNDP, 2008). Six CREMAs have been fully initiated in western Ghana and several others are under development countrywide. Four of the established CREMAs in western Ghana are considered to be performing well, whereas two are yet to establish constitutions and begin activities. Recent news reports suggest that CREMAs are to be incorporated into Ghana's Forest Master Plan, which is currently under review (Ghana News, 2008).

To date CREMAs have delivered some success for conservation of natural resources through a reduction in illegal activities, believed to be based on the expectation of future returns. It is too early to judge impacts on livelihoods, although early experiences suggest negative sentiments as CREMA regulations restrict certain activities. Social capital indicators, in contrast, are very positive, as CREMA members perceive the institutions to be working for the common good. It is also considered too early to evaluate issues such as the governance performance of CREMAs.

The organisational structure of CREMAs is clear, but different actors perceive them in different ways, as being primarily about land use, governance, securing traditional authority, securing PAs, etc. In addition, a wide range of drivers act to influence the outcomes of CREMAs, not all of which are captured within the structure of the CREMA model. For example, whilst CREMAs have tenure over natural resources, they do not have tenure over land itself, and the land tenure system continues to have a major influence on resource use. Land tenure largely remains with local authorities, and is a major driver of land use, as those granted tenure of an area must actively use it or they risk losing it. Similarly, fluctuations in the global commodity markets can influence land use within CREMAs, by increasing or decreasing the value of different land use activities.

Overall there has been good progress with CREMAs and considerable enthusiasm at the community level. However there have also been challenges and delays, most of which are institutional, centring on poor communication, lack of technical capacity and lack of clarity of goals. The CREMA model is uniquely Ghanaian, but has some similarities to CBNRM approaches used in southern Africa (e.g. Namibia) which have been underpinned by a high level of political, institutional and donor support. There are concerns that if similar support is not given to the CREMA programme, it may not enjoy the same level of success in the long term.

Source: Murphree (2008a)

project at the Nazinga reserve in Burkina Faso (Box 19) as well as village stays and local guiding around Pendjari in Benin.

Box 19. Game ranching in West Africa: The Nazinga Reserve, Burkina Faso

Burkina Faso's Nazinga Game Ranch is the only functioning game ranch in West Africa. It was established in 1979 by the Burkina Faso government in collaboration with the African Wildlife Husbandry Development Association, with the following objectives:

- To ensure protection of wildlife threatened by poaching and agricultural encroachment
- To create jobs by integrating the local populations into management of the ranch.
- To provide animal protein for local people through cropping of wild game species.

After serious initial conflicts with the local communities and a large amount of initial investment, the Nazinga Game Ranch is now able to cover its running costs from revenue generated from sale of meat and other animal products, sports hunting and tourism. Game meat is mainly derived from the warthog, *Phacochoerus aethiopicus*, but also from other ungulates. Local hunters are trained to cull the larger game on a strict quota system about 5% of the population of each species. Local people also act as guides and helpers for sport hunters, and part of the revenue from sport hunting and tourism is paid to the local communities.

Source: FAO (1999).

Bushmeat, as a major source of protein and income, represents a form of wildlife valorisation for rural forest communities. Within the CBNRM framework there is potential for local skill development, in terms of social organisation and hunting management, and this could have a strong and direct impact on livelihoods (Rieu *et al.* 2007). However, the issue of bushmeat is a very complicated one. On one hand, bushmeat provides an important source of animal protein and cash income in rural forest areas; on the other hand village hunting is perceived as one of the worst threats to wildlife conservation in the region. An increasing commercial trade in bushmeat is suggested as one of the main reasons for unsustainable hunting in many areas (Robinson and Bennet, 2000; Wilkie and Carpenter 1999), which could in the long term put local protein resources at risk. Bushmeat hunting is arguably a more sensitive issue in Central Africa (Box 3) where it represents the main protein source for the rural poor; due to heavy presence of trypanosomiasis, cattle are not generally reared in rain forest areas.

Traditional resource management

In addition to formal decentralisation processes, traditional management systems have continued to dominate in many rural areas (Kasanga, 2002; Edja, 2001) due to lack of awareness and/or enforcement of state controls. Traditional land and resource management is still an important element of CBNRM in many countries of West Africa. In most cases, village elders (such as the *stools* or *skins* in Ghana (Kasanga & Kotey 2001)) have overall administrative rights over community land, and oversee the heads of lineages groups (e.g. *hennu* in Benin (Edja, 2001)), and the heads of households, who are in charge of family land use and rights. Often the use of specific resources (such as certain fruit tree species or wildlife) is forbidden within the community (Symon, 2006). These systems of tenure and

use can exist for specific resources, such as the fishing systems and *master of waters* seen in Mali (Kassibo, 2002). Ghana has a tradition of small community-managed ‘no take’ areas, known as ‘sacred groves. These are natural areas protected by communities from extraction, often because they are thought to be the location of a deity, an ancient burial ground, or the location of an old village, and therefore containing ancestral spirits (Symon, 2006). A study of sacred groves in the country of Ghana showed that every rural village in the survey had at least one sacred grove, though some consisted of no more than a few trees (Blench 2004). These groves are thought to constitute the bulk of the 1% of forest that exists outside PAs and forest reserves (GBBP 2008).

3.6 Summary: the diverse Pan-African experience

It is clear from the overview presented in this chapter that the nature of CBNRM varies enormously from region to region, country to country, and place to place and is shaped by a number of factors – not least the historical political structures in which it developed. In some cases the original crafting of reforms developed locally, such as the devolution of wildlife management to commercial farmers in Zimbabwe and Namibia during the period of minority rule, which laid the foundations for subsequent CBNRM initiatives. In other cases CBNRM programmes have been heavily influenced by external, more global actors, such as the French school of geographical thinking which led to the *Gestion de Terroirs* approach becoming adopted as a management strategy in West Africa (Basset *et al.*, 2007), donor agencies such as USAID which has funded CBNRM programmes in several countries of Southern Africa, and regional organisations, such as CARPE and ECOFAC, which have been the largest funders of CBNRM and land tenure policy reforms in Central Africa.

49

While this review focuses on ‘formal’ CBNRM initiatives, as exemplified by donor-funded or government-administered programmes and projects, it is clear that communal management of natural resources remains central to livelihoods, national economies, and environmental conservation across large areas of the sub-continent. This ‘traditional’ communal management takes many forms and is extremely difficult to analyse – as local resource management systems are often largely informal, resting on local norms, beliefs, and customs – but it is a critical element of CBNRM in practice across sub-Saharan Africa. Often these locally adaptive systems of resource use and governance are under growing threat from external economic and political forces that threaten local resource tenure and access.

The influence of the private sector, conservation and donors

As we have noted, the historical, political and governance context of each state provides the dominant influences on how CBNRM evolves. Three other key variables seem to emerge from the regional reviews that also have a significant bearing.

First, the private sector has had an important role in the development of CBNRM. In Eastern and Southern Africa the tourism industry has driven the prominent role played by wildlife in many CBNRM projects. This is not the case in West and Central Africa, where tourism has not flourished as a result of generally poor infrastructure and ecological conditions for tourism, when compared to many East and Southern African countries. The timber industry has had a major influence on NRM in Central and West Africa but has not facilitated the development of CBNRM, with few examples of timber companies encouraging community-based timber management. By contrast, there is evidence that lucrative, centralised timber concessions provide disincentives to granting greater rights over forests to local communities in the region (Oyono, 2004).

Similarly, donor agencies – and other external support agents such as NGOs – influence the shape and agenda of CBNRM programmes. Official aid agencies changed their policies significantly in the late 1990s to focus on poverty reduction as a priority. Where they might have previously funded community-based conservation initiatives as part of a broad sustainable development agenda, they now expect their interventions to deliver much more significantly in terms of economic development goals. This can be seen in the increasing emphasis on development in the Namibian conservancies programme discussed above, which reflected changing priorities within USAID during the 1990s.

50

Finally, regional patterns also emerge in the relationship between CBNRM and biodiversity conservation. CBNRM in Southern Africa has clearly revolved around wildlife management in rural areas, and in some cases, particularly Namibia and Zimbabwe, localized wildlife management has become a strong compliment to traditional protected areas in terms of conserving wildlife and other biodiversity. In Central Africa, CBNRM is linked to conservation through park outreach schemes and community conservation areas. In contrast, in West Africa the focus of CBNRM (and particularly the *Gestion de Terroir* approach) is more on land decentralisation and sustainable management of natural resources in general, rather than biodiversity in particular.

Institutional arrangements for CBNRM across sub-Saharan Africa

A fundamental issue for CBNRM across sub-Saharan Africa's diverse national and sub-national settings is the policy and legal framework within which resource governance operates. These are far from the only issues determining the nature and outcomes of CBNRM – the historical and socio-political context also needs to be taken into consideration and plays a profound role in determining the shape of CBNRM, the way it evolves, and its impacts (Box 20). This is discussed in the next chapter. Nevertheless, a review of the policy and legal framework provides insights to the extent to which CBNRM is recognised at state level (at least in rhetoric if not in practice) and the extent to which it addresses broad natural resource management or is simply an "add on" to state conservation policy revolving around protected areas. It also helps shed light on the policy and institutional reforms that have contributed to changing CBNRM

outcomes – in terms of empowerment effects, economic and environmental impacts, as discussed in Chapter 4. A summary of policy and legal provisions is provided in Annex 1.

Box 20. Reforming natural resource governance: Policies, laws, and beyond

A great deal of the discourse on CBNRM, as in the wider realms of environment and development, focuses on 'policy reform'. In discussing the ways that rights over resources are exercised, it is useful to distinguish between policies and laws, and to clarify the way they both affect governance arrangements.

Policies are effectively a statement of government's intentions, strategy, and overall vision for a given sector. Policies are not legally binding and do not shape the rules that govern who can use resources and how they may do so. Those rules are created by **laws**, and subsidiary laws termed **regulations** which are functionally equivalent but generally do not require legislative approval to take legal force. Laws provide the basic definitions of rights and responsibilities, allocating those rights and responsibilities among different actors within government and within society. **Constitutions**, which define the basic rights of citizens and governing architecture of nation-states and other major organizational and membership-based bodies, are higher-order institutions which provide the parameters that laws must conform to and comply with.

Importantly, **governance** is not merely contingent on institutions such as policies, laws, and Constitutions. These institutions establish the formal 'rules of the game' in terms of how rights over natural resources are defined and exercised. However, these rules depend on other institutions and organizations for their enforcement, such as courts of law as well as various bureaucratic agencies. In much of sub-Saharan Africa, the rule of law is relatively weak, meaning that formal institutions play a limited role in determining how resources are used and decisions made. Informal, extra-legal factors such as personal or economic relationships and interests, kinship or ethnic ties, and cultural norms may play a much greater role than formal institutions.

These distinctions are important when considering how rights over resources are determined and exercised, and when framing issues relating to natural resource tenure reform and institutional change.

Annex 1 reveals the great diversity of laws and policies relating to CBNRM across Africa. Furthermore, the regional overviews presented in this chapter demonstrate that resource management in practice is a function not only of laws and policies, but also of how these articulate with local historical and ecological circumstances. Indeed, many of the formal tenure arrangements as reviewed in Annex 1 simply do not apply at the local level where traditional or informal systems dominate. Whilst this diversity makes it difficult to seek out unifying trends, it is possible to identify certain important patterns.

- Formal land tenure arrangements differ a great deal across Africa (Toulmin and Quan, 2000). In many cases states retain formal ownership of all land (e.g. Cameroon, Democratic Republic of the Congo and Mali), whereas in a few countries there is strong private freehold land tenure dating back to the colonial era (e.g. Kenya, South Africa) but in most countries the dominant trend is state ownership with varying degrees of local recognition of tenure rights (whether *de jure* or *de facto*) (Alden Wily, 2008).

- Many African states have embraced the rhetoric, and to varying degrees the practice, of decentralisation, often in broad domains and not limited to natural resource management (Ribot, 2003). This can be realized through the recognition of traditional authorities over land and other issues, as in the Stools of Ghana (Kasanga and Kotey 2001) or by decentralisation of resource management to newly created bodies, such as the Commission Villageoise de Gestion des Terroirs in Burkina Faso (Burkina Faso, 1989), which have no traditional homologue. In many cases, however, this policy rhetoric is not evident in practice. As many observers have noted, governments around the world have adopted the rhetoric of decentralisation, devolution, and local empowerment, but rarely has such language been matched by the depth of institutional reforms (Batterbury and Fernando, 2006; Nelson and Agrawal, 2008; Ribot, 2004). An important question for CBNRM revolves around how formal institutional reforms relating to the management of wildlife, forests, and fisheries can be better integrated with the everyday forms of informal collective resource management that continue to be an important part of African economies and societies
- With or without formal decentralization processes, a balance is often struck between formal (either state or private) and traditional or customary land tenure, and this varies on a continuum from *de facto* traditional tenure resulting from a failure of the state to enforce formal regimes (e.g. Democratic Republic of Congo; Debroux *et al*, 2007), through to explicit recognition of traditional tenure arrangements in law (e.g. Ghana; (Kasanga and Kotey 2001). It should be noted, however, that understandings of 'traditional' tenure vary a great deal from place to place, and can be highly controversial. For example, the legitimacy of 'traditional' governance institutions is often contested in countries where such institutions were defined (and often established) by colonial administrations as tools for indirect rule. Such 'traditional' institutions, it may be argued, are not be traditional at all, but have been fundamentally shaped through the patronage bestowed on individuals or groups by colonial and post-colonial governments for political reasons (Mamdani, 1996).
- There is often a vast gap between policy rhetoric and on the ground practice as a result of lack of implementing legislation or enforcement of existing laws – either through weak institutional capacity or through poor governance – lack of political will, vested interests and absence of rule of law. In many African countries informal institutions dominate and formal law is often disregarded – or at best less significant than these other 'hidden' institutions (Hyden, 2008). This high degree of informality underlies the region's generally high levels of corruption, with the importance of informal patronage in structuring political power in African countries playing a central role in the region's governance dynamics (Chabal and Daloz, 1999; van de Walle, 2001). Notably, it is in southern African countries with highly exceptional levels of government transparency and low corruption – particularly Namibia, South Africa, and Botswana – where some of the most substantial and instructive CBNRM reforms have occurred (Nelson and Agrawal, 2008).

- Formal laws and policies relevant to CBNRM within countries can be somewhat contradictory (see Box 20 – on policy, legislation, governance etc). For example, Uganda has actively adopted decentralisation of state services to the district level but retains highly centralised control over most wildlife resources through the national Uganda Wildlife Authority. Similarly, Tanzania has devolved considerable authority over land and forest management to the village level whilst simultaneously introducing new regulations governing tourism on community lands that result in a re-centralisation of resource-derived revenues (TNRF, 2008).
- Reforms – or retrenchments – in sectoral government policy on natural resource management can act as either an enabler or barrier for CBNRM, but as the regional overviews illustrate, land tenure arrangements can make even the most enlightened CBNRM initiatives unviable. The Tanzanian experience is also illustrative – the notable successes of participatory forest management would not have emerged without a local governance and land tenure framework being in place to enable tenure over forests to be granted to defined groups (villages) with defined land areas (village lands; Alden Wily and Mbaya, 2001). The lack of defined village-level local governance and land tenure entities in Zimbabwe in the 1980's was a major factor in the subsequent evolution of the CAMPFIRE programme, in its decision to vest authority over wildlife with Rural District Councils (Murphree, 2005).
- Laws specific to CBNRM are unusual, and in all cases the legal framework for CBNRM emerges from a bundle of sectoral legislation relating to issues such as local government, land, forests, wildlife and fisheries. These can be very complex (e.g. Malawi, Cote d'Ivoire, Gabon), contributing to the policy contradictions noted above. In countries with very high levels of forest cover, provisions for CBNRM can to some extent be made through a single piece of sectoral legislation, because issues of land and wildlife converge within forestry legislation (e.g. Republic of the Congo, Guinea). However, even here there can be contradictions, as in Liberia where post-conflict land reforms strengthening the land rights of forest dwellers has met resistance from the forestry bureaucracy.
- Finally, there are several examples of coordinated national level CBNRM programmes, often developed in partnership with major donor agencies (e.g. USAID projects in Namibia and Malawi). In some cases these have been influenced by existing programmes in other countries, such as the Namibian conservancies program which explicitly built on lessons learned from the earlier CAMPFIRE program in Zimbabwe. Similarly, the *Gestion de Terroirs* approach initiated in Cote d'Ivoire and Burkina Faso grew out of the *Terroirs* approach developed by French geographers in the 1960s, but was to some extent inspired by CAMPFIRE (Bassett *et al.*, 2007). Examples of these are provided in Table 5.

Table 5. Different regional approaches to community involvement in natural resource management			
Region	Protected Areas outreach	Collaborative management	Community-based management
Central Africa ⁵	Most formal CBNRM in the region is park outreach around strict protected areas, with no real community control	Several countries have legal framework for community forestry, but limited progress on the ground.	CCAs emerging in DRC
East Africa	Revenue sharing in Uganda, Rwanda, Kenya, and Tanzania	Beach Management Units and limited access to resources within PAs in Uganda. Wildlife Management Areas in Tanzania. Joint forest management in Tanzania, Kenya, and Ethiopia	Community Based Forest Management in Tanzania. Communities entering joint venture partnerships with tourism operators on their land in Kenya and Tanzania
Southern Africa	Limited. Forestry in Mozambique where large populations live in PAs	Co-management of South African Contractual Parks. Fisheries in Malawi	Various national programmes giving wildlife management rights (in varying degrees) to communities (e.g. Zimbabwe, Namibia, Botswana).
West Africa	Limited. Zoning for pastoral activities in buffer of W Regional Park; Village Hunting Zones in Benin	Decentralisation of resource management (but not ownership) through Gestion de terroirs approach (e.g. Cote D'Ivoire, Burkina Faso). Some sectoral policies encouraging participation – eg wildlife in Burkina Faso and Benin	CREMA programme in Ghana

5. The columns for co-management and community management are, to a significant degree, transferable for Central Africa – eg CCAs are often based on a co-management approach but include some more devolved examples. Community forestry includes the principle of devolution in policy rhetoric but in practice is more like co-management.

What has CBNRM achieved in Africa?

The '3Es' – empowerment, economics, environment

Aurélie Binot, Tom Blomley, Lauren Coad,
Fred Nelson, Dilys Roe and Chris Sandbrook

Murphree (2008b) identifies three 'pillars' by which the viability of CBNRM programmes can be evaluated: conservation, benefits and empowerment. There are, however, potential tensions between these pillars. The generation of economic benefits, for example, is often an essential incentive for conservation, but increasing resource-based revenues can also stimulate increased local competition and potentially concentration of benefits (so-called 'elite capture'). When benefits become concentrated in local elites in a way that violates local social norms and undermines collective action, it can work against the basic tenets and assumptions of CBNRM. Similarly, as resources become more valuable through CBNRM, there may be increasing interest at the national or district level in capturing community revenue streams. In this section we build on the three pillars framework to explore the impacts of CBNRM – focusing on empowerment impacts, economic impacts and environmental impacts – and the interactions between these.

55

4.1 Empowerment

As Nobel Laureate Amartya Sen (2000) has argued, development is as much about empowering people to take charge of their own lives and futures as it is about economic welfare, *per se*. In sub-Saharan Africa, poverty and underdevelopment are closely related to the disempowerment and political marginalization of people, particularly rural communities, that has occurred since the colonial era. Many commentators argue that community empowerment is one of the greatest impacts of CBNRM (e.g. see Arntzen *et al.*, 2003; WRI, 2005) – far exceeding any economic or environmental benefits.

- In the Luangwa Valley in Zambia, Dalal-Clayton and Child (2003) suggests that possibly more important than tangible benefits are the organisational capacity and empowerment effects created by the process of revenue distribution – which involves regular elections, bank accounts, audits, and a high level of participation in decision-making by villagers.
- In Tanzania, the Village Council budget of Ololosokwan village, Ngorongoro District, increased from about US\$ 2,500 in 1995-1997 to nearly US\$ 60,000 by 2003 as a result of the development of several village-private sector tourism agreements in the intervening period (Nelson and Ole Makko, 2005). This precipitated a great increase in the capacity of the village to invest in social

services and provide local benefits to village residents. It also increased the capacity of the village to advocate for its land and resource rights, using the financial capital from tourism to develop political capital in the struggle over land and resource tenure.

- In West Africa, one of the main advantages from land decentralisation is cited as the strengthening of community borders from outside resource use and economic migration (Ibo, 1997b; Stamm, 2000). By mapping and enforcing community boundaries, communities are provided with legal backing to prevent entry to, and use of, their lands.
- In the DRC, CCAs have been established under the request of local communities, with the aim of protecting their territory from external degradation (either from displaced communities, economic migration, or commercial logging).

However, CBNRM may or may not strengthen local level governance institutions. In Botswana, there have been repeated instances of local trusts embezzling or mismanaging revenue from wildlife-based enterprises, which Rihoy and Maguranyanga (2007) attribute both to the role played by local elites and the way CBNRM has been facilitated, with a lack of long-term investment in building local capacity. In Kenya, pastoralist Group Ranches have repeatedly failed as collective resource governance institutions, leading communities to individualize formerly communal pastures and seek new, generally smaller collective landholding arrangements (Mwangi, 2007). In Tanzania, there are examples of villages transparently managing tourism revenues but also of villages with sustained records of misuse of funds, thereby undermining the potential for wildlife-based revenues to generate collective incentives for conservation (Sachedina and Nelson, In press). In West Africa, mapping and enforcing community boundaries for land registration can enhance the ability of communities to prevent external exploitation of their land, but where the national infrastructure for implementing decentralisation policy is weak, new laws on land tenure can serve to add further confusion to an already pluralistic system and potentially further weaken traditional community management. For instance, in Cote d'Ivoire, weak enforcement of national tenure policies, coupled with a high demand for land has created new 'intermediate' institutions, falling between 'traditional' and 'state' tenure laws (Stamm, 2000). Similar weakening of traditional structures can be seen in Central Africa; in Gabon state ownership of the forest has eroded the traditional system, which relied on perceived clan and family ownership and power in order to demarcate and enforce hunting and agricultural boundaries (Pourtier, 1989; Starkey, 2004).

Certainly, local governance is no panacea for institutional transparency and equity. In Tanzania, Brockington (2008) reviews village governance in Rukwa region, and describes multiple incidences of coercion, criminality, lack of transparency, fraud, and high levels of taxation with no corresponding level of investment.

Although there are widespread cases of mismanagement, fraud, and relatively dysfunctional collective governance at the local level, it is important to recognize that governance is an adaptive social process. Transparent collective local governance institutions are highly unlikely to emerge overnight, particularly where institutions are newly created, and take time to evolve. This has been one of the main lessons of CBNRM throughout sub-Saharan Africa. In Zimbabwe's CAMPFIRE programme, for example, there are numerous cases of communities going through phases of strong local management alternating with periods of lower transparency and higher elite capture (Taylor and Murphree, 2007). These phases are also influenced by governance dynamics at non-local scales, such as changing national political conditions (Rihoy *et al.*, 2007). Local systems of accountable governance take time to evolve, as mechanisms of accountability develop and are adapted to local social norms. For example, Lund and Treue (2008) in their review of community-based forest management in Mfyome village, Iringa, Tanzania, cite examples of corrupt village government officers being ejected from management committees after reports of embezzlement.

A key issue for CBNRM reforms' impacts on local governance and the empowerment of rural citizens lies in considering not only the degree to which power is being transferred to the local level, but also the degree to which the recipients of decentralised authority are accountable and democratic. Mamdani (1996) argues that many local government authorities, including local actors often framed as 'traditional' rulers by colonial administrators, in African states amount to forms of 'decentralized despotism'. Ribot (2004) builds on this work in pointing out that decentralisation of NRM may or may not be democratic, depending on whether or not powers are transferred to downwardly accountable local institutions. CBNRM is premised on local collective action driven by shared benefits, and the local institutional landscape is critical to enabling such cooperation.

Who gets empowered?

African societies, whether traditional or modern, are usually not homogenous or strictly egalitarian communities, but are subject to a wide range of social and economic forms of differentiation. CBNRM is about fostering collective action for governing natural resources at the local level, but it is virtually inevitable that such collective action will benefit some local actors more than others. CBNRM initiatives should take care to be aware of these local forms of differentiation and exclusion, and to ensure equity and inclusiveness where possible, but it is highly unlikely that CBNRM itself can or should correct all local forms of inequality, some of which may be strongly grounded in local social norms and beliefs. However, it is essential for CBNRM efforts to be cognizant of the ways that interventions, particularly those that seek to create new resource management institutions, may be biased towards particular social groups or elites, and how new resource governance measures may distribute costs and benefits in differential ways.

- For example, many countries in West Africa have embarked on – or fully established – decentralisation policies and increasing local level structures are

being established for NRM. At the same time, traditional land and resource management systems have persisted in the region – often due to the weakness of the state government and low levels of awareness and enforcement of state policy. The new institutions set up under the decentralisation process undoubtedly empower local communities with newfound rights over resources – but at the same time can undermine and disempower existing local institutions.

- In Cameroon the current reforms to the Forest Code, although providing communities with rights to manage their own forests, can often clash with traditional forestry laws and traditional power structures. In the case of the Ngola-Achip Community Forest in East Cameroon, established in 2001, Kenneth (2006) argues that communities need to create a legalised association in order to create a forest reserve; these new power structures can disrupt traditional management structures, creating a new 'elite' within the village.
- In Cote d'Ivoire, Stamm (2000) reports a clash between statutory and customary institutions noting in particular the undermining of traditional authorities by new power structures and groups, and the undermining of local rules by state laws, especially regarding restricting community land access to outsiders (Stamm, 2000).

58

Empowerment of one community or social group can have negative impacts on other groups. In West Africa, for example, mapping of tenure rights, which is part of the decentralisation process has meant that economic migrants (often moving from northern countries into the Gulf of Guinea) can lose tenure rights in their own community (IIED, 1999), and, as outsiders, be denied access to new communities. Pastoralists, who can clash with static village communities over land use, are often marginalised further by decentralisation policies, which often view land management in *terroirs* or parcels of land. A key element of many land tenure policies in West Africa is the concept of *mise en valeur* or the requirement to put land to productive use in order to retain rights. This is particularly problematic for pastoralists as definitions of productive use are often based on cultivation and the establishment of infrastructure, e.g. the tilling of fields, digging wells, putting up fences etc. Pastoral land use does not lend itself to these kinds of requirements so a broader definition of *mise en valeur* which takes into account mobile livestock production is necessary. An important advance for pastoral land tenure is the concept of *terroir d'attache*. For instance, the Rural Code in Niger states that herders have a right to use rangelands in common and that herders can obtain recognition of priority rights on their home areas (*terroir d'attache*). This includes both land and water rights.

Differences in land use and power between ethnic groups can also result in one group succeeding in securing land rights over another, as a result of decentralisation policies. For example, in Central Africa one of the ethnic groups that are often disaffected by decentralisation are the Ba'aka (Joiris, 2000), due to their often remote and nomadic way of living, and the perception of pygmies as

a 'lesser' ethnic group by many Bantu groups. Women are also often negatively impacted by land registration, when they have indirect (patrilineal) access to land through their husbands, and so can lose land rights with registration. In matrilineal situations land registration may not prove detrimental (IIED, 1999); however, patrilineal inheritance seems to be the dominant form in West and Central Africa. In Benin, Mongbo (2008) found that in two case-study villages the creation of community forest management committees were causing friction between younger and elder members of the community; elder members still wished to run committees using traditional ways, which include myth and local religion, whereas younger members no longer believed in these older traditions after a recent movement in the community towards Christianity.

The phenomenon of 'elite capture' where the most powerful or richest members of a community are able to seize a disproportionate level of power and/or benefits can constrain or undermine the intended outcomes of CBNRM. For example, decentralisation in Mali provides an example of how village councils can strengthen the local elite, rather than providing a community voice. Under the 1991 decentralisation decrees in Mali, fishing councils were set up at regional levels, and management committees in villages. However, the local fishing chiefs *j'i tigi* are often elected into the regional council positions – due to their local influence, which has resulted in the most powerful members of the community strengthening their voice in decision-making (Kassibo, 2002).

In Kenya, the Group Ranch structure of land and resource management has proven to be highly susceptible to control by local elites, who have tended to reward themselves with allocation of lands and revenues in many areas, thereby converting communal property to individual property (Mwangi, 2007; Thompson and Homewood, 2002). In Tanzania, increasing local revenues have often resulted in local disputes over financial allocation, or a general emergence of patterns of non-transparent fiscal management (Sachedina, 2008). In the same area, though, there are cases of local communities consistently holding leadership accountable through electoral and social sanctions (Nelson and Ole Makko, 2005). This reveals the inherent variability in local governance performance that is a feature of CBNRM, as with governance in human societies in general.

Elite capture is not always considered as a bad thing. During the Makuleke land claim process in South Africa there was conflict between the traditional chief and the new, democratic Common Property Association which had instituted the land claim. In this case, the royal family received a lot of benefits from the Common Property Association, but most people in the community were happy with that and felt the royal family were the rightful beneficiaries (Collins and Snel, 2008). Furthermore, elite capture at the local level as a result of CBNRM may simply be replacing the elite capture that would have occurred at district or national levels in the absence of CBNRM. Any analysis of the success or failure of CBNRM in a particular location or context thus needs always to take account of the counter-factual – what would have happened in the absence of CBNRM and would it have been any better?

Box 21. Do joint ventures encourage elite capture?

In Botswana a model for formal CBNRM that has been widely promoted allows communities to enter into a joint venture agreement with the private sector around hunting and/or tourism. It has been argued that this arrangement has created opportunities for elite capture of benefits, which has limited the impacts of wildlife revenues at the local level (Madzudzo *et al.*, 2006).

However, as Rihoy and Maguranyanga (2007) note, one of the main drivers of this type of monopolization of joint ventures in Botswana by elites has also been inadequate commitment to local capacity building through long-term technical support. Where initial community-based management structures are established as new, unfamiliar entities, major investments need to be made in capacity-building and ensuring broad local awareness of local rights and responsibilities in order to encourage accountability of new management structures.

Empowerment through changing rights

One mechanism for empowering communities is to strengthen their legal rights over land and resources. The summary of the policy and legal framework for CBNRM in different countries presented in Annex 1 reveals a huge variation in the degree to which control over land and resources remains centralised or has been devolved to community level. Overall, however, several main institutional trends predominate in sub-Saharan Africa (as in many parts of Asia and Latin America; Ribot, 2004; Ribot *et al.*, 2006).

60

- First, nearly all African countries have been influenced by historical trends during both colonial and post-colonial periods which served to centralise authority over lands and resources, and effectively dispossessed local communities (Alden Wily, 2008).
- Second, during the past twenty years there have been widespread reforms calling for decentralisation and devolution of rights over lands and natural resources. These reforms have occurred and often been closely associated with the introduction of broader political democratisation reforms in sub-Saharan Africa, or occurred in contexts of major political changes such as the ends of civil wars or the overthrow of autocratic regimes.
- Third, although CBNRM reforms have been widely promoted, in the vast majority of cases the constitutional or legislative changes required to decentralise authority over resources have been much more truncated than reformist rhetoric, and in some cases reformist policy rhetoric has been followed by re-consolidated central control. A problem in many CBNRM interventions has been conflating *policy* reform with *governance* reform; policy statements are only one element of governance, and far less important than legislative or constitutional changes that provide the basis for citizens' rights and privileges.

In East Africa, for example, despite sweeping reforms across the region since the late 1980s, major gaps remain between policy and practice in NRM (Barrow *et al.*, 2000). In large measure, these gaps are not simply a failure of governments

to implement 'good' policy, but reflect the prevalence of informal institutions in ordering these societies, a general weakness of the rule of law, and generally patronage-based governance throughout contemporary Eastern Africa (see Chabal and Daloz, 1999; Kellsall, 2008). In Tanzania, vested political-economic interests in the logging and charcoal trade, both at national and local government levels, appears to be having a negative impact on communities' abilities to secure rights over and benefit from forests (Milledge *et al.*, 2007). In the wildlife sector, policies designed to devolve authority over wildlife passed in the late 1990's have gradually been replaced by measures to centralise control over wildlife-based revenues generated on community lands (Nelson *et al.*, 2007). For example, recent Ministerial regulations require tourism companies to cease paying villages directly for access to village lands and re-route all revenues through the Wildlife Division, and have led to considerable debate over who should benefit from wildlife and tourism investments on community lands (TNRF, 2008).

Similar tensions over the benefits derived from valuable natural resources are prevalent elsewhere:

- In many Central African countries timber often contributes a significant portion of national GDP. As a result, forests have overwhelmingly remained state property, and forest concessions are sold to mainly international timber companies, providing important government revenues (FAO, 2006; Forest Monitor, 2001). Many countries in Central Africa have provision for community forests, but in practice few have been established or managed (with the exception of Cameroon).
- In Southern Africa Mozambique provides a case in point, where despite policy reform processes that favour CBNRM, the state has retained control over the most valuable natural resources (timber, tourist areas). The lack of real devolution of authority reflects a combination of many processes witnessed elsewhere including power struggles and elite capture (Anstey, 2005) coupled with the weakness of the justice system in terms of making 'rights' practically defensible (Nhantumbo and Anstey, 2007).
- In Botswana, the new CBNRM policy channels up to 65% of revenue from wildlife on community lands to a centralized trust fund, whereas for many years communities that established CBOs and obtained wildlife user rights were entitled to 100% of the revenues derived from third-party contracts and lease agreements.

Poor law enforcement, often resulting from weak rule of law, can also make enlightened policy largely irrelevant. In Equatorial Guinea, for example, the forest law has, since its inception in 1948, provided for community participation in forest management. Currently 70 per cent of the taxes from forest production in the communal forests are expected to go towards projects that benefit the local communities (FAO, 2006). In practice, however, enforcement of the legal

requirements of forestry companies is thought to be virtually non-existent, due to a lack of Ministry staff and capacity for the adequate monitoring logging activities, and enforcement of forestry laws (Forests Monitor, 2001).

Box 22. How much devolution is enough?

There has been substantial debate in the Southern African region on the appropriate extent of devolution for successful CBNRM – inspired to some extent because of perceived limitations of the CAMPFIRE programme in Zimbabwe due to its failure to devolve authority fully to the community level. For example, Murombedzi (2001) argued that CAMPFIRE “has not sufficiently devolved rights in wildlife to local communities....the top-down preferences of central government on communities have merely been replaced by the top-down preferences of local governments on communities.” The key problem as identified by many such analyses of CAMPFIRE at the time, was that proprietorship over wildlife was decentralized to RDCs, rather than, as CAMPFIRE’s initial proponents had hoped and intended, to the local communities living alongside wildlife themselves (see also Murphree, 2005).

Some argue that CBNRM cannot work without full devolution to the community level (Balint and Bond, Submitted; Dalal-Clayton and Child, 2003; Jones and Murphree, 2001; Musumali *et al.*, 2007). In contrast, others argue that full devolution may bring problems because community institutions are fragile and require ongoing external support (e.g. Mahenye in Zimbabwe; Balint and Mashinya, 2006). Carrere (2007) observed in the community forests of Melombo, Cameroon, that communities found it hard to prevent illegal logging without government authority, and most communities required support from local NGOs or government to run the forestry business effectively. Other scholars in Southern Africa have recently argued that because having strong relationships with higher levels of government can help to buffer local level institutions against political moves towards recentralisation, even weak forms of decentralised authority to the district level may help communities access benefits from resources and secure rights over time (Rihoy *et al.*, 2007; Rihoy and Maguranyanga, 2007).

Shackleton *et al.* (2002) note that one problem is that different stakeholders have different visions and experiences of devolution and emphasise that “A shared framework, more accountable to local livelihood needs and people’s rights to self-determination, is required. Careful re-assessment of the state’s claim to be protecting the wider ‘public interest’ forms part of this process.”

Legal rights are not enough

Legal rights, it is clear, are not enough, and need to be set in the broader historical and political context of each country. Nelson and Agrawal (2008) describe for example that institutional reforms devolving rights to the local level have been relatively more successful in countries where public institutions are relatively efficient and the rule of law operates – for example Namibia, Botswana, and pre-crisis Zimbabwe. These, they argue, are not the norm across sub-Saharan Africa – where in general state institutions are characterised by patrimonial relationships and weak rule of law: “In these countries, the devolution of valuable natural resources such as wildlife to the local level is fundamentally at odds with the interests and incentives that dominate governance processes” (Nelson and Agrawal, 2008).

Much depends on the robustness of community organisations (new or old) and their ability to adapt and respond to internal and external pressures. Russell and Dobson (In press) argue that “social embeddedness and the willingness/ability of

an institution to address threats posed by social and ecological shocks are critical to the long-term resilience of any...institution.” This is exemplified by Botswana, where Arntzen *et al.* (2003) note: “The inconsistent performance of older and more recently established CBOs shows that organisational capacity changes over the life-time of organisations, and is determined by the ability of organisations to effectively respond to the challenges they meet in both their internal and external environment.” Equally in Tanzania, Nelson and Ole Makko (2005) note that in some places poor fiscal management has become entrenched, while in others the oversight capacity of the Village Assembly has evolved and accountability between the Village Council and Village Assembly has improved in an iterative manner.

Box 23. Working with existing institutions or building new ones?

CBNRM programmes vary in the extent to which they establish new community institutions or build on existing institutions. In Tanzania, for example, the basis for local collective decision-making is the Village Council and Village Assembly, institutions established in the mid-1970s and given authority over village lands through the 1999 Land Act and Village Land Act (Alden Wily and Mbaya, 2001). Private sector-community partnerships in tourism use this existing local governance framework, as does the official framework for CBFM defined by the Forest Act of 2002. The WMA system, however, requires the formation of a new entity, a supra-village CBO that becomes, once the WMA is gazetted, a so-called ‘Authorized Association’ (AA). The rationale for the creation of this new institution is that in almost all cases, WMAs cover a number of individual village areas (in practice ranging from 2 to more than 25 villages). The establishment of this CBO/AA has been one of the more contentious aspects of WMA establishment in some communities, particularly those where wildlife-based tourism has been established under existing village government structures and communities are reluctant to shift power upwards to an unfamiliar new entity where lines of accountability to the Village Assembly are unclear and untested (see Nelson, 2007; TNRF, 2008).

The degree to which WMAs build local capacity or weaken local resource governance capacity, by shifting authority over large areas from Village Councils to CBOs/AAs, remains unknown and is a key concern regarding WMAs going forward (TNRF, 2008). There is already wide anecdotal evidence that WMAs are prone to manipulation and control by district-level authorities, due to the relatively weak links between Village Assemblies and the CBO/AA management bodies.

The institutional basis for CBFM in Tanzania contrasts sharply with that of community wildlife management. Rather than the formation of a separate (and potentially competitive) local institution, the forest law integrates forest management responsibilities within the context of elected village governments. Where more than one village share the management of a single forest area, it is common to see the development of a resource-wide institution constituted from individual village governments, which provides a forum for linkage and co-ordination.

In West Africa, decentralisation committees can clash with traditional community systems; village communities are often run using traditional beliefs and religions, which are often used for crime prevention/systems of peacekeeping. New decentralisation laws and committees can cause friction between younger members of the community, who move towards decentralisation, and the older members, who keep with traditional beliefs and laws (Engberg-Pedersen, 1995; Mongbo, 2008).

In Kenya, communities themselves have established new collective resource management systems. The limitations of the Group Ranch structure (particularly local elite capture described above) has meant that collective mechanisms for rangeland management in parts of Kenya (mainly the wildlife-rich southern rangelands of Kajiado and Narok Districts) have largely given way to individualized landholding patterns. However, local groups have sought to address the ecological problems inherent in fragmentation by re-aggregating properties for purposes of both livestock management

as well as wildlife/tourism ventures (BurnSilver and Mwangi, 2007; Thompson *et al.*, 2009) and developing new collective structures such as shareholding corporations, local membership-based trusts, and landholder associations.

This has also occurred in DRC, where the Tanya reserve was established and is managed by the local Bamate and Batangi chiefs (Mehlman *et al.*, 2006). Similarly the Ngira'Yitu Community Reserve (La Réserve communautaire Ngira'Yitu, RENG'YIT), was set up by the Utunda, Bana-Bangi and Wassa groups, and the Bakumbule Community Primate Reserve (La Réserve Communautaire des Primates de Bakumbule, RéCoPriBa) was established and is managed by the chiefs of the Kisimba and Ikobo communities (Mehlman *et al.*, 2006; Vwirasihikya, 2003). Where communities are not the instigators of collective management however, combining two or more village authorities can cause tensions in local communities. For example, in the case of community forestry in Cameroon, where Community Forests must be formed by an association or co-operative (Bigombe, 2002), these new power structures can disrupt traditional management structures, creating a new 'elite' (Kenneth, 2006).

Experiences from fisheries co-management in Malawi also point to the need for locally-appropriate institutions (even if these may take longer to mature) over externally imposed frameworks that seek rapid success (Russell *et al.*, 2008).

Ribot (2004) notes that, in numerous cases from around the world, decentralisation reforms grant authority over resources to new local collective governance bodies because it is easier for central interests to maintain control or upward accountability over such structures which are not grounded in local patterns of social interaction and familiarity, and that this in turn helps central interests to maintain control and influence over local resources. The 'politics of choice' in natural resource governance reforms- deciding who to empower when transferring new forms of authority to local governance bodies- are central to the impacts CBNRM has on local communities (Ribot, 2007).

4.2 Economics

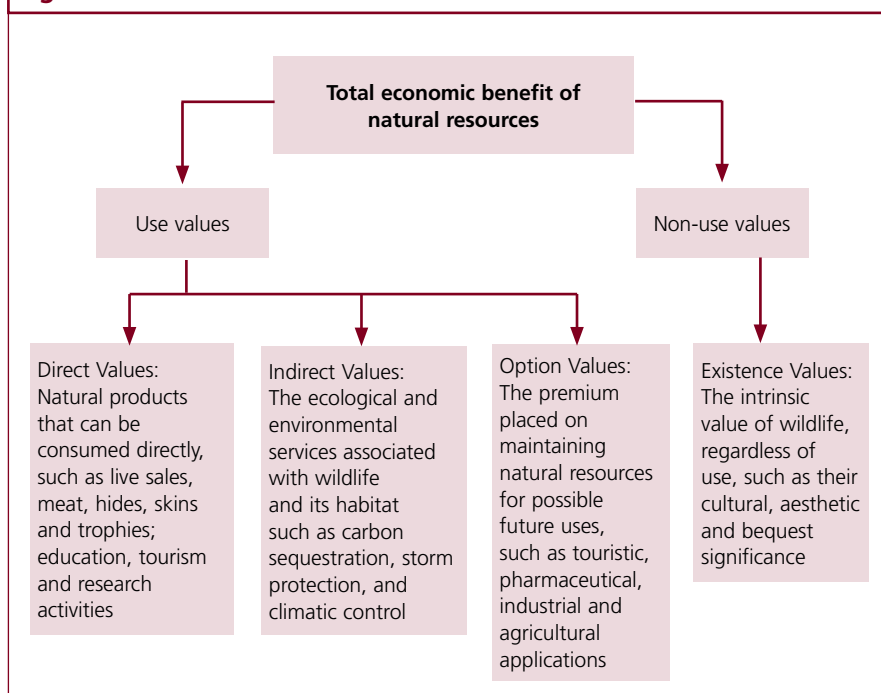
The potential of CBNRM to generate economic benefits for local people has been a key driver of efforts to revive or stimulate CBNRM, because such benefits can in theory create incentives for resource conservation and contribute to local economic development and poverty reduction (WRI, 2005). Paradoxically, however, as was noted in the above discussion on empowerment, the high value of some natural resources – which should contribute to these goals – has meant that state authorities and other vested interests have a strong incentive not to devolve authority (for example see the discussion on wildlife in Tanzania and timber in Central Africa). This section reviews the available evidence for the economic impacts of CBNRM in Africa, and the impact this has had on poverty reduction at the local level.⁶

Evaluating the economic benefits of CBNRM

Conventionally, definitions of the economic benefits of natural resources were restricted to direct values of natural products (such as meat or timber) or associated activities (such as tourism and research). However, it is now recognised by economists that wildlife and other natural resources have diverse values which go far beyond those that can be measured in financial terms. These include use values (direct, indirect and option) and non-use 'existence' values (see Figure 3).

6. This section is very much dominated by data from East and Southern Africa. The researchers collating information for this review from Central and West Africa have noted a dearth of quantitative information.

Figure 3. The diverse values of natural resources



Source: Emerton (2001)

Furthermore, to determine whether benefits derived from natural resources deliver development outcomes or incentives for conservation, it is not sufficient simply to measure the cash value of such benefits. Rather, several important issues must be considered, as outlined by Emerton (2001). First, the nature of benefits must be determined, because this will affect their impact on local livelihoods. For example, a communal benefit such as a new school may be valuable, but does not offer a replacement to lost sources of income resulting from reduced resource use options under a CBNRM regime. Second, the distribution of benefits must be determined, because if it is heavily skewed in favour of certain individuals, the ability of CBNRM to deliver broad-scale development outcomes and incentives for conservation will be undermined. Third, the costs associated with natural resources and their management must be weighed up against any benefits derived from them. These include the direct costs of setting up CBNRM initiatives and carrying out conservation activities, such as employing game rangers, the costs associated with living with wildlife, such as crop-raiding or risk to personal safety, and opportunity costs of foregone alternative land use, such as agriculture. All of these costs can be considerable, and can undermine the positive benefits of CBNRM.

The nature of CBNRM benefits

The potential benefits which can be derived from natural resources for local communities are diverse (Figure 2). These include the empowerment benefits discussed in the previous section, and a wide range of other values, from tangibles such as food (for example distribution of game meat from hunting operations is a key component of the Namibia national CBNRM programme); cash payments (e.g. from sales of hunting quotas, tourism agreements and so on); and jobs (e.g. within tourism enterprises, as game guards and rangers, within hunting operations) through to less quantifiable returns such as spiritual and intrinsic values. It is clear that developing a full understanding of the economic impact of CBNRM at any site would require a range of quantitative and qualitative data, covering these various different dimensions of cost and benefit. Unfortunately, this review found that in the great majority of cases such data were not available. Rather, published data are heavily focused on the financial benefits of CBNRM – either in the form of individual and/or community cash payments and income earned from employment. Little information is available on other benefit streams and on costs. Jones (2004a) notes: “There has been little attention focused on some key issues concerning the links between CBNRM and poverty reduction/alleviation and sustainable rural livelihoods....most work has focused almost entirely on income generation and has not tried to analyse CBNRM impacts against a broader understanding of poverty that also considers other factors... yet there are other dimensions to poverty that need exploring in the CBNRM context.”.

66

Furthermore, the focus of attention in evaluating economic benefits has been on formal, ‘projectised’ CBNRM. As our overviews have shown, however, in the great majority of cases CBNRM takes place outside any formal ‘projectised’ framework, and little is known about the total economic value derived from such systems, although it must be very considerable (Box 24).

Box 24. The economic value of ‘traditional’ CBNRM

In some cases, more traditional forms of local collective resource management continue to support the livelihoods of millions of people. This CBNRM income is often unquantified, and hence unrecorded and undervalued by policy-makers, but the few studies that have attempted to quantify it have revealed a considerable contribution to the local and national economies. In South Africa, for example, Shackleton and Shackleton (2004) estimate that value of everyday resource use to the national economy is around US\$ 800 million per annum. Similarly in Kenya, the most significant economic income arises from pastoralist livestock production on communally managed rangeland, estimated by Hesse and MacGregor (2006) to be worth US\$ 800 million. Numerous studies – particularly of NTFPs – have highlighted their role in supporting the livelihoods of millions of poor people (e.g. Shackleton *et al.*, 2000). However, even in such cases (e.g. pastoralism in East Africa), policy measures such as land tenure reforms, investment policy, and local government legislation have a major impact on the ability of local communities to maintain established resource management practices and attendant benefit flows.

Even as far as documenting financial benefits goes, the vast majority of literature on measured economic benefits comes from Southern and Eastern African case studies, where many CBNRM revenue-generating projects focus on wildlife management, such as ecotourism or game ranching. In contrast, there is a paucity of information on CBNRM revenues from West and Central Africa. There are a number of reasons why this is the case:

- Firstly, decentralisation of resources in community management is relatively nascent in both West and Central Africa.
- Secondly, both in West and Central Africa there are limitations for ecotourism and game ranching. For many countries in both regions significant revenues from conventional 'photographic' ecotourism are not yet a viable possibility; flights are expensive from Europe and America, infrastructure for tourists is poor, and training for tourism is weak. This is compounded in West Africa by low wildlife populations (in many countries due to long-term habitat degradation and hunting) and in Central Africa by currently inaccessible forests, which currently require a lot of time and money to see. Compared with the 'charismatic megafauna' of South and East Africa that can be seen by vehicle, these circumstances are not currently conducive to ecotourism, although the 'untouched' nature of the high biodiversity Congo Basin has high ecotourism potential once infrastructure and country-access problems have been solved, and safari hunting does take place in several Central African countries.
- Thirdly, as noted in earlier sections, where there are valuable natural resources (particularly timber) with revenue-generating potential, the state has, in general, resisted efforts to devolve authority to local communities and community benefits from timber remain very limited.

The scale of CBNRM benefits

One major component of the policy and institutional reforms in different parts of Africa favouring decentralisation and/or devolution of authority over natural resources has been the new potential afforded to communities to capture revenue previously accruing to the state. Table 6 provides examples of national reforms that have facilitated this local revenue capture.

Table 6. Examples of national policy reforms enabling local capture of CBNRM revenue

Country	Revenue capture as a result of policy reform	Reference
Benin	20% of forest use fees go back to local communities	Mongbo (2008)
Ghana	Percentage of land use profits retained by local <i>stools</i> increased from 10% to 25%	Kasanga & Kotey (2001)
Mali	Under the new decentralisation policy, the state works with village communities on state-managed timber contracts, and the village and state share the revenues	Becker (2001)
Tanzania	<p>Villages can enter into direct agreements with tourism companies to share profits from photographic tourism on their land</p> <p>Where WMAs have been established, AAs for WMAs receive a proportion of Tourist Hunting Game Fees</p> <p>Decentralisation of authority over forest management has meant that village governments are now able to collect taxes and fees from forest users. In Iringa District, annual village incomes from PFM increased from around US\$ 540 in 2002 to around US\$ 720 by 2005; potential sustainable timber revenues from community forests may be tens of thousands of dollars per annum</p>	<p>TNRF (2008)</p> <p>MNRT (2008b)</p> <p>Lund (2007)</p>
Namibia	The community conservancy policy introduced in 1996 has meant that conservancies can enter into direct agreements with tourism and hunting companies (previously negotiated through the government) and agree a mutually acceptable revenue share	NACSO (2007)
DRC	2002 forestry code stipulates that 40% of logging fees must be used for basic community infrastructure	Debroux <i>et al.</i> (2007)
Cameroon	Communities retain profits from timber extraction in community forests apart from a government felling tax	(Egbe, 2001; Fomete and Vermaat, 2001; Forest Monitor, 2001)
CAR	In the ZCV, 50 to 70 % of hunting taxes remain locally	Roulet and Binot (2008)

As a result of these reforms, financial returns – at the collective level – can be significant. Table 7 provides examples of financial returns – from cash payments and salaries – at diverse sites, and the wide range of resource use activities used to generate income, including photographic and hunting tourism, timber sales, and national park revenue sharing programmes.

Table 7. Financial returns from African CBNRM initiatives

Country	CBNRM initiative	Financial returns	Reference
Benin	Village committees in Penjari National Park receive 70% of ecotourism and hunting profits	US\$ 70,000 in 2005	UNEP (2008)
Burkina Faso	Buffalo hunting at Nazinga reserve	First season generated ~ US\$ 1,300 – equivalent to 21 local salaries	Vermeulen and Ouedrago (2003)
CAR	ZCV revenue from hunting areas	1999/2000 generated ~ US\$ 110,000 of which 82% went to village committees 1992 – 2008, a total income of €1,641,376 raised – in 2004 village level incomes estimated to be in the region of €6,000/year.	ECOFAC (2008), Mbitikon (2005) Mamang-Kanga (2008)
Cameroon	Timber sales in community forests	Ngola Achip forest made enough profit to build 72 houses and fund scholarships	Kenneth (2006)
Rwanda	Parc National des Volcans revenue sharing programme	Over US\$ 110,000 in 2007	Martin (2008)
Ethiopia	Community based tourism at Meket	Over US\$ 15,000 between 2005-2007	TESFA (2007)
Kenya	Community-Based Tourism venture in Laikipia	Income of US\$ 16,053 across 100 sampled households	Mizutani <i>et al.</i> (2005)
Namibia	Communal conservancies	Total income in 50 conservancies of over US\$ 4 million in 2007	NACSO (2008)
Zimbabwe	CAMPFIRE	Total from 1989-2001 over US\$ 20 million	(Frost and Bond, 2008)

Where necessary returns have been converted to US\$ for comparability using 2009 exchange rates.

Benefit distribution mechanisms

Where CBNRM takes place as a result of a formal project or policy / legal reform, it is common for benefits to be distributed to local people through structured mechanisms or regulations. These mechanisms vary a great deal with local context, but two main strategies can be identified for channelling funds to communities, households and individuals. These are **cash payments** at the community level and **investment in community projects**.

Cash payments are most commonly made to the relevant community organisation rather than directly to households or individuals. Revenues from the harvesting of timber and charcoal in Tanzania's community forest reserves, for example, are paid in cash to the Village Natural Resource Committee and from

there into a village bank account for use in supporting local forest management, or for wider community development needs. There are no cases of Tanzanian villages paying registered village members dividends based on wildlife/tourism earnings, although income from these ventures is received in cash at the collective level and managed through village bank accounts according to established village government procedures.

Similarly in CAR, hunting revenue from the ZCV project is collected by the community management committee, and at the end of each season is split between the Forestry Fund (a special account for the Forest Development and Tourism Ministry), and the communities.

In the majority of cases the community organisation is able to decide for itself how best to further distribute the funds – whether as cash dividends to individuals and households or for communal benefits. In the ZCV initiative, for example, a general meeting is convened at the end of each hunting season to decide on funding priorities for the villages, and these have included: medicines, school supplies, salaries for game wardens, nurses, accountants, and members of staff, support for small farmers (purchase of goats, enclosures and vet bills), maintenance of roads etc (ECOFAC, 2008). Similar mechanisms occur in the Dzanga Sanga reserve in the CAR.

70

In Southern Africa most communities elect not to pay household dividends (Bond, 2001). However, in some cases this is because such payments are discouraged by higher authorities, and dividends can be ‘disguised’ through food for drought relief, tillage payments to households, etc. (Taylor and Murphree, 2007). In Botswana very few CBOs involved in CBNRM distribute revenue directly to households. In many cases, revenues are simply too modest to become the major livelihood source. Other reasons are the high costs of many community organisations and preference for community projects (Arntzen *et al.*, 2007). Similarly in Namibia, support to community initiatives is the most common form of benefit distribution, but individual cash payments are increasing. These have worked best where the number of conservancy members is small and the revenue considerable, as discussed in more detail below.

In Kenya, by contrast, payment of dividends to members of local wildlife associations and Group Ranches is common, at least where the membership of landholder associations is relatively small. Similarly in Zambia, Child (2006) is convinced that benefit distribution is most effective when cash payments are made directly to individuals who then have the option to re-invest in community projects, an approach which has been used and promoted in the communities in the Luangwa Valley.

In some cases CBNRM payments are made to community structures via an intermediary – often the local or district government, or traditional leaders – who often retain a percentage of the income. The issue of CBNRM ‘taxes’ is discussed further below.

Investments in community projects are sometimes facilitated through the establishment of trust or endowment funds, such as the Mgahinga and Bwindi Impenetrable Forest Conservation Trust (Uganda) and the Eastern Arc Mountains Conservation Endowment Fund (Tanzania) which operate as independent entities and use a 'Local Community Steering Committee' structure to vet and screen proposals coming from the local level. A more common channel for funds disbursed in this manner comes from revenue sharing schemes from national parks and other PAs to front line communities affected by conservation. In some cases the lower levels of local government (parish or village) are used as an entry point for planning and supervision of these investments (Archabald and Naughton-Treves, 2001).

Box 25. Community Trusts as a mechanism for managing CBNRM at the local level

Community Development Trusts (CDTs) are a mechanism which has been developed in Southern Africa as a means to accommodation legislative impediments to the distribution of CBNRM benefits to local people. CDTs have been implemented in Zambia and Zimbabwe, and in Botswana they form the main mechanism for CBNRM throughout the country. As Jones (2004a) says, "CBNRM implementation in Botswana mobilises local communities to form legal trusts so that they can gain quotas from the wildlife department and enter into joint venture agreements for trophy hunting or photographic tourism with the private sector. A number of trusts have formed around the management of other resources such as veld products." By 2007 91 such trusts were registered in Botswana, covering 150 villages in all 10 districts, including almost 135,000 people or 10% of the population (Schuster, 2007).

Within the CAMPFIRE programme in Zimbabwe, community trusts have been used to oversee local activities such as community based tourism. They are able to gain land leases from RDCs which place them in a strong position in terms of providing group rights over land and resources. Child *et al.* (2003) argue that for this approach to be successful, such trusts need more capacity and support in developing appropriate accountable and transparent relationships between the trustees and community members. Ultimately, however, Trust formation still depends upon the willingness of councils to allow communities to take on increased management responsibility.

In Zambia CDTs possess full juridical personality and all members of the community are entitled to membership though village and area committees and chiefdom level board. A key strategy of the trusts is to apply to the District Council and then the Land's Commission to convert strategic parcels of customary land into leasehold. Once the trust holds leasehold land it could then seek investors and partners for development as the statutory lessor. In this way customary land would be alienated from the community back to itself in the form of the trust, which could then keep control of its land through a 'head' lease arrangement and manage investments directly through sub-leases. The trusts are designed to avoid land converted from customary to leasehold slipping out of the control of the community by using the advantages of private title for its own purposes.

In governance terms a key element concerns the downward accountability of the board to the members. Village assemblies are the democratic bases as they elect village committees that in turn supply the area and then board representatives. The Board is also accountable through an Annual General Meeting and through a General Assembly every three years (Sekute Community Trust, 2003). The traditional leaders' role in the trusts relates to community mobilisation, oversight and regulation of elections, ensuring the trust constitutions are upheld and where necessary providing arbitration to resolve conflicts. The Chiefs' land authority status exists in

law and cannot be given away so the Trusts will propose land sites to be converted for the traditional ruler to consider. In this way the Chiefs have allowed a democratic process to advise and guide them. Should they wish to ignore the advice they risk undermining the very structure they have enabled. The Trust is constituted at the Area level, a tier of organisation below the Chieftainship, corresponding with the traditional Headmanship. With the active participation of the communities the Trust identifies and prioritises natural resource and development opportunities and builds them up into Chieftdom level visions, strategies and action plans. Communities are being actively engaged to ensure they drive the trust agendas and not vice versa with the process being pushed ahead in the Sekute and Makuni areas. (Nesbert Samu – African Wildlife Foundation (AWF), pers. comm.)

A review by (Arntzen *et al.*, 2007) highlights common community benefits from CBNRM programmes in Southern Africa including schools, clinics, community halls, road improvements, crèches, reticulated water, toilets, gardens, nurseries, and community vehicle. Collective income can also be allocated to individual or household needs – in Namibia's #Khoadi //hoas conservancy for example, Jones and Mosimane (2007) report expenditure of 5 to 10 percent of gross revenues on community benefits, such as support for schools, loans to livestock owners, and development of water points. Similarly Shompole Group Ranch and Ecotourism project, in southern Kenya generated US\$ 115,000 in a period of five years which has been spent on upgrading the water system, bursaries for poor children to go to school, support to the local school and other shared benefits (Ole Petenya, 2007). In the ZCV areas of northern CAR, as well as in the Lossi sanctuary in Congo, the community benefits have all been invested in collective infrastructures but under the supervision of a village board.

The significance of economic benefits

As discussed above, measuring the scale of monetary returns at the communal level does not tell the full story of the economic impact of CBNRM. Two of the other crucial factors which must be considered are (1) how benefits are distributed at the individual or household level, and (2) how significant returns at that level are in the local context. These issues are important because if the distribution of benefits is highly skewed or benefits are trivial in the local context, the ability of CBNRM to deliver development outcomes and create incentives for conservation will be undermined.

In most studies income is measured at the level of the community and then extrapolations are made as to what average benefits are received by households (Roe *et al.*, 2006). Such averages generally mask the distribution of income between and within households. It certainly appears that at the individual or household level, CBNRM cash incomes are often limited. For example Roe *et al.* (2006) conclude that in general, formal CBNRM programmes in Southern Africa have not performed well at generating income at household level – except in rare cases where communities are small and there are high value wildlife resources (Bond, 2001; Jones, 2004a; Turner, 2004). For example, in 2006, after renegotiating a contract with a private sector partner to prevent revenue capture by the RDC, Masoka ward in Zimbabwe received US\$ 132,522 through the

CAMPFIRE programme. There were 340 households in this area, making the returns equivalent to approximately US\$ 390 per household (Taylor and Murphree, 2007). As Taylor and Murphree (2007) conclude, “As a cash crop, wildlife outperforms its only rival in Masoka, cotton, by several orders of magnitude.”

In other areas, as Bond (2001) has demonstrated, differences in human and wildlife population densities result in enormous variability in the per capita returns of CAMPFIRE. The earliest CAMPFIRE wards, located in the Zambezi valley, have low human populations but considerable wildlife populations, and returns per household have been very significant in these areas. However as other wards with less favourable conditions for CAMPFIRE joined the programme average returns declined, and Bond (2001) notes that “In real terms the median benefit per household declined from US\$ 19.40 in 1989 to US\$ 4.49 in 1996”.

The inequitable distribution of benefits is often associated with the domination of benefits by well placed local elites (as discussed in the Empowerment section above). At the local level, benefits can be concentrated among traditional chiefs, the well educated or the wealthy (reviewed by Ribot, 2003). Benefits can also be captured by non-local stakeholders through the levying of taxes on returns of CBNRM. This is discussed in more detail below in the section on constraints to CBNRM incomes.

Box 26. CBNRM and poverty reduction

73

A number of studies have reviewed the distribution of benefits from CBNRM programmes, and the extent to which they are pro-poor – either by specifically targeting poor people, or by generating outcomes that particularly benefit poor people even if this was not their original intent. In many cases, these studies found that the (relatively) wealthy benefit more from CBNRM than the poor:

- A study of PFM in Tanzania assessed the distribution of benefits across different wealth categories and concluded that there were a range of barriers that prevented greater participation in the programme by poorer members of the community. This included the payment of harvesting fees, the requirement for upfront investments of labour and capital in income generating projects, as well as a more systematic exclusion of the poor from decision making structures and processes (MNRT, 2008a).
- In Kenya’s Maasai Mara, wealthier members of the community benefit more from wildlife income than the poorer members – the top quartile (measured by household income) obtaining 60-70% of overall wildlife income while the bottom quartile gets about 15% (Thompson *et al.*, 2009).
- In Benin there is evidence that marginal groups (women, migrants, tenant farmers) lose out from PFM (Mongbo, 2008).

In other cases, the distribution of benefits does not favour one wealth group over another. For example, in Namibia, Bandyopadhyay *et al.* (2004) suggest that benefits are not limited to a small number of wealthy individuals: “The results suggest that the improved welfare effects of conservancies are poverty neutral in the arid north-western Kunene region and pro-poor in the semiarid Caprivi region. There was little evidence to suggest that the better educated or the asset rich were gaining more from conservancies relative to their less-educated or poor counterparts; thus, it was concluded that conservancies, if not pro-poor, are at least not being dominated by the elite.” In a follow up study (Bandyopadhyay *et al.*, 2008) confirm this finding.

Where data are available to determine the magnitude and distribution of returns from CBNRM these must be placed into the context of the broader local economy. A number of commentators have remarked that household income from CBNRM is often relatively insignificant compared to income from other sources, and only likely to be a supplement to household incomes rather than the main source. For example, although the revenue sharing scheme operated by Parc National des Volcans in Rwanda generates over US\$ 100,000 per year for local people, the area adjacent to the park supports a human population of up to 600 people per km² (Plumptre *et al.*, 2004). When the money from the revenue sharing scheme is placed into this context, it becomes clear that the returns per household are minimal. Similarly, in the richest wildlife areas of Kenya, such as around the Maasai Mara, livelihoods in rangelands remain overwhelmingly reliant on livestock, relative to income from tourism and agriculture (Homewood *et al.*, 2009). Returns to pastoral landowners across Kenya from wildlife average US\$ 5 per ha/annum, with those areas having established tourism concessions on private lands generating an average of US\$ 10 per ha/annum, rising to US\$ 50 per ha/annum in the Maasai Mara (Norton-Griffiths, 2007). Across the wide array of local conservancies, landowner wildlife associations, and tourism joint ventures situated around the Maasai Mara, tourism/wildlife income accounts for about 16-25% of household income, compared to 60% for livestock and less than 5% for arable agriculture (Thompson *et al.*, 2009). In other cases, returns from CBNRM can make up a large proportion of household income. In Botswana, for example, Arntzen *et al.* (2003) finds that household income from community-level trophy hunting concessions in some areas can amount to US\$ 45 a month – 87 % of the average household income.

Where individual or household benefits from CBNRM appear small, they can still be highly significant in areas when there are few other income-earning opportunities (Arntzen *et al.*, 2007). For example, in Maputaland, South Africa, Easton (2004) reports that hunting returns can be greater than alternative land uses per unit area. The same is true for Namibia where few alternative sources of income can be derived from vast arid and semi-arid regions of the country (Barnes *et al.*, 2002). Such income can also help to diversify local livelihoods and enhance household resilience (Mizutani *et al.*, 2005; Thompson *et al.*, 2009). These impacts can be particularly beneficial where CBNRM takes place in remote areas with minimal provision of services from the state, as is often the case. However, this can lead to the state effectively handing over provision of services to CBNRM initiatives (Box 27).

The economic costs of CBNRM

It is not possible to evaluate the overall economic impact of CBNRM without considering costs as well as benefits. These costs fall into three main categories. First, there are the costs involved in establishing and running CBNRM initiatives, which can be very substantial. Second, there are opportunity costs from alternative land uses which are not compatible with CBNRM. Finally, there are the costs of living with wildlife, which can be exacerbated where CBNRM results in

population growth and increased problems such as crop raiding. In this section these different categories of cost are considered in turn.

Where CBNRM takes place on an informal, 'traditional' basis, the costs involved in administering management regimes are likely to be relatively minimal, and to be met entirely by local people. However, where CBNRM interventions take place through formal projects or as a result of large-scale legal reforms, costs can be very high. These include initial start-up costs such as paying for technical expertise, equipment etc., and ongoing management costs such as staff salaries and vehicles. These costs are often met by donor agencies, which have made very large investments in CBNRM programmes in several African countries.

If the revenues flowing from CBNRM activities are low, they may fail to meet the ongoing running costs. This is the case at the Mount Cameroon Project (one of only four known game-ranching programmes in Central Africa), where the costs are higher than the benefits and the project has to be supplemented (Akumsi, 2003). Similarly, the West Africa Pilot Community-Based Natural Resource and Wildlife Management Project, with US\$ 7 million in funding from the World Bank from 1996 – 2005 in northern Cote d'Ivoire and Burkina Faso, failed to produce any revenue streams from ecotourism or game hunting by the end of the project (World Bank, 2005).

Box 27. CBNRM as a substitute for, or subsidy of, state services?

Adams and Infield (2003) point out that through systems of support to community projects from collective income, CBNRM can effectively become a subsidy programme for national government spending. In Uganda, for example, following the introduction of revenue sharing from PAs, some local governments appear to be reducing investments in the sub-counties and parishes surrounding the PAs, as there is a perception that the funds from revenue sharing are sufficiently supporting the infrastructure and service delivery needs of these areas. The danger therefore is that revenue sharing then simply fills the gap left by the district councils resulting in a zero sum gain for affected communities (CARE, 2008). The additional costs that they incur from conservation are consequently not reflected in the level of external investment. However, Taylor and Murphree (2007) comment that this complementing of what should be public spending can be particularly valuable in times of political crisis and budget deficits (e.g. in Zimbabwe).

Understanding the opportunity costs involved in adopting CBNRM regimes is a vital, but rarely considered, component of economic analysis. In some cases, such as arid regions of Namibia as mentioned above, the opportunity costs of alternative land uses, such as agriculture, are fairly minimal. However in other areas such costs can be very significant. The classic example of opportunity costs associated with conservation is from Kenya, where Norton-Griffiths & Southey (1995) estimated that if all parks, reserves and forests were turned over to agriculture and livestock production, they could generate net returns of US\$ 203 million per year, compared to the US\$ 42 million generated by tourism and forestry at that time. Since this seminal study far greater emphasis has been placed on the value of 'ecosystem services' and other values not quantified in the original study, but it is unfortunate that so few analyses of CBNRM in Africa identified by this review attempt to estimate either such non-monetary values, or opportunity costs.

Like benefits of CBNRM, opportunity costs are unlikely to be equitably distributed. Turner (2004) notes that not only are the wealthy often better placed to take advantage of CBNRM programmes, but, more worryingly, that the poorest people are most likely to be dependent upon hunting and gathering to supplement their livelihoods and may be the most disadvantaged by increased law enforcement associated with 'formal' CBNRM. Where communities set aside land for wildlife and tourism, households lose access to grazing, water, and other resources. This can happen on a large scale where large areas of land are zoned for wildlife, or on a smaller scale where people no longer have access to land used for a community-run camp site for example. Often it is the poorest individuals and households – who have limited alternative resources – that suffer the most from this loss of access, however temporary (WRI, 2005). In Zambia, for example, selling hunting rights as a part of a CBNRM programme can mean local hunters lose their prestige and identity (Brockington *et al.*, 2008; Marks, 2008). Similarly there is evidence from Botswana (Arntzen *et al.*, 2003) and Namibia (Sullivan, 2000; Vaughan *et al.*, 2004) to suggest that the poorest people are also negatively affected by the restrictions on access to game meat that CBNRM can impose. In Central Africa the reduction in availability of bushmeat is one of the most debated effects of regulated resource use on local communities, where bushmeat can provide up to 80% of protein needs (Koppert *et al.*, 1996) and up to 70% of household incomes (Starkey, 2004). Whether such problems represent localised institutional failings of individual CBNRM projects or a more general problem with the CBNRM model is open to debate.

Finally, it must be recognised that if CBNRM interventions are successful in achieving resource conservation, resulting increases in wildlife populations can result in greater conflict between wildlife and local people. In Tanzania for example TNRF (2008) point out that villages can often end up subsidizing national economic benefits from wildlife in Tanzania by bearing the costs (with no provisions for compensation and weak local investments in human-wildlife conflict mitigation) of living with wildlife, while consumptive uses of wildlife such as tourist hunting generate mainly centrally-captured revenues. This problem is, however, largely a reflection of institutional arrangements in Tanzania which grant central authorities proprietorship and the ability to monopolize benefits from wildlife on community lands, leaving communities with the costs while benefits flow elsewhere. This issue is considered in more detail in the section on environmental impacts of CBNRM below.

Constraints to maximising income streams

Governance is perhaps the key constraint to maximising local returns from CBNRM and enhancing pro-poor impacts. As already noted in the discussion on empowerment, there are strong disincentives for African states and bureaucratic institutions to devolving rights over valuable resources to the local level (see Gibson, 1999). For example, Nelson and Agrawal (2008) argue that the value of tourist hunting, and its administration by central agencies in a context of low government accountability and transparency, can create incentives for continued

central control over wildlife and the marginalization of local economic interests. As Ribot (2004) details, similar incentives are in fact found across Asia, Africa, and Latin America, although the relative weakness of democratic and accountable governance institutions in sub-Saharan Africa may particularly inhibit CBNRM reforms (Nelson and Agrawal, 2008).

As noted above, the distribution of CBNRM benefits at the local level can often favour particular individuals at the expense of the majority. However, this process also operates across different scales, and is perhaps most noticeable in terms of benefit capture by central and district government institutions – often evidenced in the form of revenue retention or a ‘tax’ on CBNRM income. This is manifest in a number of different ways. In Botswana, for example, new regulations mean that income from joint venture tourism now has to be split 65%/35% with the government (government retaining the larger share). The rationale behind the new policy is to redistribute wildlife benefits to areas that are poorer in resources but this has been seen as controversial and recentralising (Schuster, 2007). Mbaiwa (2008) points out that in Sankuyo, “the 35 per cent remaining in the communities is too little even to pay for the running costs of their office.” In Zimbabwe, revenue from wildlife in CAMPFIRE districts is captured by RDCs in the first instance and then distributed to local communities. However, RDCs retain a portion for their administrative costs (at most 15% of revenues) and for resource management (35% of revenues Arntzen *et al.*, 2007). In Ghana all rents, dues, royalties, revenues or other payments are collected and distributed by the Administrator of Stool Lands (a post created in 1994): 25% to the landholding *Stool*, 20% to the traditional authority, and 55% to the District Assembly (Kasanga and Kotey, 2001). Table 8 illustrates the taxes that are applied with the CAR ZCV initiative and how these are distributed between national and local levels.

Table 8. Distribution of principal taxes for the ZCV

	Treasury (Bangui)	Forestry Fund (MEFCPT, Bangui)	Communes (communal budget)	Villages (community office)	Management zone account (technical staff)
	National	National	Local	Local	Local
Hunting Permits	100%	–	–	–	–
Licence for a guide	–	55%	45%	–	–
Corporate License	45%	–	55%	–	–
Size of hunting zone (750FCFA * km ² zone)	–	–	20%	50%	30%
Use of the ZCV	–	–	–	50%	50%
Hunting tax (before capture)	–	20%	15%	30%	35%
Hunting tax (if an animal is caught)	–	20%	15%	30%	35%
Commercial meat sale	–	–	–	100%	–

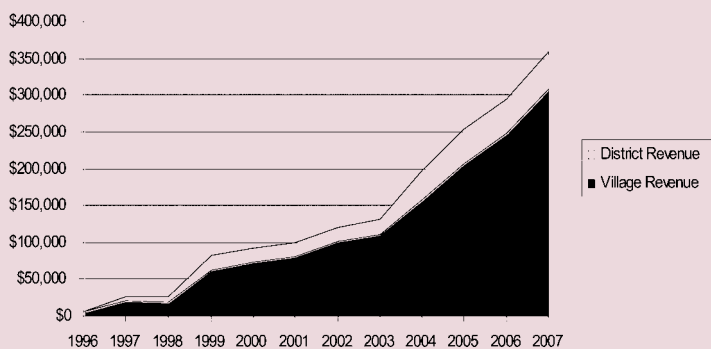
Translated from Roulet, 2006.

Box 28. Revenues from community-private sector tourism agreements in northern Tanzania also benefit local and national government

In northern Tanzania, villages have entered into legal contracts with investors for purposes of carrying out tourism which will bring benefits from wildlife to the local communities. Many of these village investor contracts are in villages around Serengeti and Tarangire National Parks and have been in place for more than 10-15 years. Different agencies and branches of government have often promoted these ventures as a way of increasing local economic opportunities and direct benefits from wildlife outside state PAs (TNRF, 2008).

One long-standing example of this arrangement comes from Ololosokwan village, which neighbours Serengeti National Park. TANAPA assisted the village to establish a campsite for tourism companies so that the village would be able to secure additional benefits from wildlife tourism. Since the late 1990s, the income of Ololosokwan and the other villages in Loliondo Division (Ngorongoro District) has increased to a total of over US\$ 300,000 (TZS 360 million) each year from these tourism enterprises. In addition, revenue to the district council has also increased proportionately (*ibid*).

Increasing revenue from village-operator tourism ventures in Loliondo Division, Ngorongoro District. Data is for cumulative earnings of 7 villages, 1996-2007. (Source: TNRF, 2008)



However, new regulations may change the amount of income that can be retained by villages under these arrangements. For community lands which are not designated as WMAs, new regulations on non-consumptive tourism mean that payments of around US\$ 45-65 per client per day will need to be paid by tourism companies to the Wildlife Division rather than to villages. This represents a substantial new tax on village wildlife-based tourism ventures, and may displace 50-75% of village revenues or make these ventures non-viable in commercial terms. The Wildlife Division will reportedly re-direct 60% of revenues from these areas back to the villages, although mechanisms for this are not yet clear and debate continues over implementation of these non-consumptive tourism regulations.

For tourist hunting, revenue from WMAs is paid to the Wildlife Division and then a proportion is passed on to the community. Revenue returned to the local level may be quite substantial: according to data from the Wildlife Division, five AAs shared a total of US\$ 61,850.75 from Tourist Hunting Game Fees for animals hunted on their land in 2006, while in 2007, eight AAs shared a total of US\$ 69,883.44 (MNRT, 2008b). However, the basis for these payments is unclear, and the communities do not know what proportion of total revenues from hunting in their areas is represented by the money they are being given.

Overall TNRF (2008) estimate that that a minimum rate of central taxation on wildlife revenues generated from community lands is about 40%, and may range higher and even up to 100% where mechanisms for ensuring revenues are returned to villages are not functioning.

Namibia appears unique in that CBNRM earnings are untaxed and communities retain 100% of income from wildlife, although Tanzanian forestry law also allows communities to retain all the income generated from products harvested from Village Land Forest Reserves. Because Namibian communal conservancies receive the full value of the revenue from leases and concessions, the local-level incentives for participation and resource stewardship are strong (Balint and Bond, Submitted).

Taylor (2009) notes encouraging developments in CAMPFIRE where some wards have now switched to direct payments from safari operators to producer wards in order to ensure benefits are not captured by RDCs. With respect to Masoka ward he notes: "Consequently an all time low of US\$11,437 received in 2004 was followed by a dramatic rise to US\$132,522 in 2006, a ten fold increase in income."

A central cause of state and district governments capturing the bulk of revenues from valuable resources such as wildlife and timber is a **lack of enabling policy and legislation** that might give local communities greater control over resources and their economic values. In Kenya, for example, Norton-Griffiths (2007) comments that a protectionist wildlife policy that proscribes most consumptive forms of wildlife utilisation greatly limits the economic options available to landowners from wildlife. Prior to the introduction of the hunting ban in 1977, private landholders were able to charge fees for wildlife utilisation occurring on their land and by the mid-1970's, the Mbirikani Group Ranch outside Amboseli National Park was earning US\$35,000 from fees charged for hunters using their land (Homewood *et al.*, 2009). Norton-Griffiths (2007) notes non-consumptive wildlife tourism is limited to about 23,000 square kilometres, or about 5% of the total rangeland area where wildlife is found in Kenya. In the vast expanses of northern and eastern Kenya where little photographic tourism takes place, there are few or no incentives for communities to invest in wildlife conservation, and it is the areas where wildlife is accorded no economic value that large mammals declines have been steepest during the past 30 years (Western *et al.*, 2006).

Sustainability of economic benefits

In Southern Africa in particular, but also in East Africa (particularly Tanzania) and some parts of West and Central Africa, formal CBNRM programmes are highly dependent on tourism (including tourist hunting) for revenue generation. This is currently less true in West and Central Africa, where the majority of CBNRM projects are linked with PAs buffer-zone projects or forestry projects. Tourism is notoriously subject to external pressures – including economic conditions in tourist originating countries, political unrest in destination countries, and the changing tastes of tourists themselves. High-end luxury tourism (as often used in CBNRM initiatives) is considered the most vulnerable to shocks such as terrorism or political instability, as wealthy tourists are often risk averse (Lepp and Gibson, 2003). As an example, Jones (2004a) notes that for several years until early 2002 tourism in the Caprivi Region in north east Namibia had come to a halt because of political unrest and the spilling over of the civil war in southern Angola into Namibia. These characteristics of the tourism industry make visitor numbers, and hence income,

highly unpredictable from year to year, undermining the sustainability of revenue streams to tourism-based CBNRM initiatives. In the early 1990s, for example, Kenya Wildlife Service announced a policy of sharing 25% of park revenues with surrounding communities, although subsequently this high proportion proved impossible to sustain, particularly when civil unrest disrupted the tourism industry.

Recognising a need to diversify income sources, CAMPFIRE had tried to move away from a reliance on trophy hunting and expand into photographic tourism. However, because of the political and economic instability, tourism to Zimbabwe has collapsed (Jones, 2004a). Tourist hunting is more resilient to political problems (such as in Zimbabwe at present), making it potentially more sustainable than photo-tourism. Hunters are also less fussy about the context of their hunt, often being prepared to tolerate the presence of livestock (Lindsey *et al.*, 2006).

The long-term sustainability of CBNRM initiatives can also be undermined by the inequitable distribution of benefits discussed above. For example, Lindsey *et al.* (2007) postulate that the inequitable distribution of hunting revenues represents the most serious threat to the long term sustainability of the industry. The reasons for this inequitable distribution are predominantly governance issues raised earlier in this review – inadequate provisions for community rights, ineffective or incomplete devolution of authority over wildlife – but sometimes also relate to the capacity of often new community organisations to negotiate a fair deal with hunting operators.

80

Other forms of CBNRM which do not involve tourism are also vulnerable to problems with sustainability. For example, management regimes which allow for the off-take of natural resources under a quota system can be vulnerable to over-exploitation. This is particularly problematic when environmental fluctuations lead to low production of the resource, which may coincide with peak demand if agricultural production systems have also been affected by poor environmental conditions (Barrett and Arcese, 1995).

A further issue is that PA authorities are increasingly becoming autonomous agencies, responsible for covering their own budgets. The incentives to share large proportions of their budgets with communities are thus low when there are other competing priorities. In Tanzania, for example, community benefit sharing comprised less than 2% of TANAPAs record-high total revenues in 2006-7 (TANAPA, 2007). Similarly in Benin, only 30% of hunting fees are retained locally, as the National Centre for Wildlife Management (CENAGREF) is an autonomous agency and must finance an important part of its budget.

In Central Africa, projects are often at risk due to their reliance on donor support, and therefore projects can end at the end of the initial funding period; examples include cane-rat farming in Gabon, which wound down after the end of the EU funding cycle (Abernathy, pers comm.), and the West Africa Pilot Community-Based Natural Resource and Wildlife Management Project, which was not continued after

2005, when World Bank funding came to an end. ECOFAC projects in Central Africa also have 4-year funding cycles, which can decrease project sustainability. Similarly, many community-run projects in Central Africa are reliant on outside logistical support; examples include the community forest policy of Cameroon, where community forests have required a large amount of technical support to produce the paperwork and management plans required to obtain legal status (Kenneth, 2006)

Conclusions

Several key lessons can be drawn from this discussion of the economic impacts of CBNRM in Africa:

- Economic benefits can be highly valuable at the community level, whether through formal or informal processes
- Benefits are realised in a wide range of forms, including cash income, meat / forest product quotas, community investments, skills development, contributions to the national economy, social security and the intrinsic value of protected resources
- The inequitable distribution of benefits can undermine conservation and development outcomes of CBNRM. The significance of benefits must also be understood in the local context
- CBNRM activities can incur considerable costs, including management costs, opportunity costs, and increased conflict with larger wildlife populations
- Benefits captured locally from CBNRM are inherently connected to governance and institutional factors, particularly the degree to which communities are able to make decisions about resource utilisation and retain benefits without high levels of taxation or external appropriation; this is a major constraint in many countries to maximising local returns from natural resources through CBNRM
- The great majority of published studies of economic impacts of CBNRM focus on Eastern and Southern Africa, and fail to take account of non-monetary benefits of CBNRM or of associated costs, including opportunity costs. This makes it very difficult to assess the overall economic performance of CBNRM in Africa.

4.3 Environment

As we noted in our introduction, CBNRM is premised on the devolution of authority over natural resources to the community level. CBNRM has been criticized as an ineffective strategy – both for conservation and development – but often because the necessary reforms have not taken place in terms of transfer of resource management authority and rights, power relations and institution building. Furthermore, where proponents of more ‘top-down’ approaches to

resource management and conservation have highlighted the successes of strategies such as state-run PAs they have often failed to compare this apparent success with community-based approaches in similar contexts. The reality is that in many countries a large proportion of biodiversity or wildlife populations are found outside state PAs and CBNRM can make an important contribution to a portfolio of conservation approaches at the national level. However, many of the studies that have collected data on the environmental or ecological outcomes of CBNRM have tended to be based on specific, small-scale, case studies with few assessing performance at a national or regional scale. This lack of broad scale data has been explicitly recognised as a problem by donors (e.g. DFID, 2002).

Wildlife trends under CBNRM regimes

In general, it is difficult to judge the environmental effectiveness of CBNRM, because overall there has been little empirical monitoring of many projects' impacts. Jones (2008) notes, for Southern Africa: "Little attention has been given to empirical research on the impacts of CBNRM on wildlife or wild habitat. This is an area that requires further research and in particular the link between perceived benefits from CBNRM and local level conservation management." There is also a problem in attributing causality to any environmental improvements since they could as much be caused by external factors (e.g. changes in rainfall, disease outbreaks and so on) as by any management regime.

82

Nevertheless there are examples of impressive results. In Namibia's communal conservancies programme, for example, the contribution of CBNRM to the recovery of wildlife populations across large parts of northern Namibia including endangered species such as black rhino, elephants and Hartmann's zebra is well documented. The general trend for all these species over the past 15 years or more has been upwards (NACSO, 2004). Elephant numbers in north-western Namibia are increasing (from 300 in the early 1990s to around 800 at present) and elephants are expanding their range in both the northwest and northeast (Jones, 2004a). Despite the attribution problems described above, there is general consensus that without community commitment to conservation, species such as the black rhino would not survive and be increasing on communal lands as they are at present (Durbin *et al.*, 1997). These sustained increases in wildlife populations outside of PAs is a particular phenomenon of Southern Africa (see Child, 2004), and it is perhaps no coincidence that this is the region in which devolution of authority over wildlife to rural communities is most widespread and established.

In Botswana, there is no indication of wildlife numbers increasing to the extent they have done in Namibia but data in Arntzen *et al.* (2003) show that most species have remained stable in recent years, while steenbok, impala and elephant numbers have increased by up to 5%. While there have been some declines in CBNRM areas there is no indication of the cause of this decline (Jones, 2004a).

Box 29. Economic incentives driving environmental improvements

In Kenya's Laikipia District, zebra numbers have increased from an estimated 6,000 in the late 1960s to over 30,000 by the mid 1990s (Georgiadis *et al.*, 2003; Georgiadis *et al.*, 2007). Predators such as lion and hyena remain widespread and the endangered wild dog returned to Laikipia in 2000 and has increased rapidly in number over the past nine years. Laikipia District is entirely constituted from either private or communal land or Group Ranches (held collectively for extensive grazing) and it is in these areas where wildlife has recovered and increased. A main reason for the increase in wildlife is that Laikipia has developed a strong wildlife based tourism industry, and private ranchers and local communities have set aside land to conserve wildlife because of its economic benefits (TNRF, 2008). Similarly, in Uganda a review of Integrated Conservation and Development Projects (ICDPs) undertaken over a 15 year period around Bwindi Impenetrable and Mgahinga Gorilla National Parks revealed that community attitudes towards the PAs had improved dramatically between 1991 and 2003. The key determinants of these changes in attitude were attributed to the operations of the Bwindi Trust Fund, benefits gained locally from tourism and the sustainable agriculture programme being promoted by CARE International (Namara *et al.*, 2003).

TNRF (2008) note that the conservation impact of tourism highlights the need for reforms which enable greater economic returns to be captured at the local level (such as through consumptive utilisation) if wildlife populations are to persist outside of state PAs. In Southern Africa, for example, revenues from trophy hunting have resulted in requests to have land included in wildlife management projects, and in some cases increasing wildlife populations (Baldus and Cauldwell, 2004; Child, 2005; Lewis and Alpert, 1997; Weaver and Skyer, 2003).

In Tanzania, there is a growing body of literature on the impact of PFM but many of the findings reported until recently have been based on perceptions of community members rather than any quantitative analysis. Nevertheless those perceptions point to some positive outcomes (e.g. see Kajembe *et al.*, 2006; Lund and Treue, 2008; Mustalahti, 2006; Sjöholm and Louno, 2002; Woodcock *et al.*, 2006) including:

- improvements in water discharge and quality from PFM areas
- increasing signs of natural regeneration in degraded areas
- reduction in unregulated and unsustainable levels of harvesting (such as logging, charcoal production and hunting of game)
- reduced incidences of fire
- reduced village revenue from fines, due to reduction in illegal activities
- reduction in encroachment of agricultural land into forest areas
- increases in game and wildlife numbers/diversity.

Similarly in West Africa and Central Africa, very few initiatives have systematically measured impacts – one of the rare cases being the Tayna Community Reserve in DRC. In 2001 Tayna field staff conducted an initial census of the intended community reserve using 68 km of line transect surveys. The same transects were repeated in 2005/2006, allowing change in wildlife populations over 5 years to be monitored. They found a ten-fold significant increase in elephant encounter rate, a three-fold increase in chimpanzee encounter rate, and a two-fold increase in gorilla encounter rate; during the same time period human signs showed a seven-fold decrease (Mehlman *et al.*, 2006).

Nevertheless, local perceptions elsewhere – where reported – highlight positive outcomes:

- The Zone Siwaa villages decentralisation project in Mali reported slowing in the degradation of natural resources, notably concerning excessive logging and the erosion of agricultural soils (Ba, 1998).
- The Diaba Basin Community Protected Area project reported signs of forest regeneration (Kaba, 2007).
- The Penjari Biosphere Reserve co-management project in Benin has resulted in reductions in poaching, illegal logging and building inside the park (GTZ, 2008).
- The West Africa Pilot Community-Based Natural Resource and Wildlife Management Project in Cote d'Ivoire and Burkina Faso reported a reduction in agricultural encroachment within the conservation zones which it created (World Bank, 2008b).
- In CAR, the ZCV initiative – which establishes hunting zones around PAs in a co-management approach – has produced mixed results, reporting increases in the populations of some key species: elephant (50%), warthog (300%), bush pig (75%), hylochere (40%) kudu, wild dog and leopard, and decreases in the populations of other key species: spotted hyena (80%), lion (60%), Cheetah (50%), giraffe (50%), cobs, *Redunca*, hartebeest and buffalo.
- The Mount Cameroon Project also reported wildlife increases, using community indicators, and plans to implement scientific monitoring.

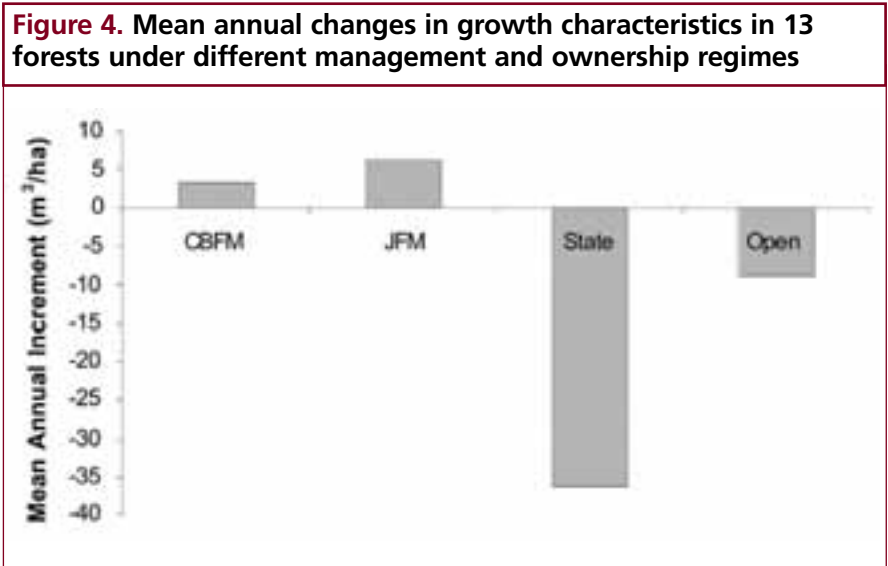
The potential for positive environmental impacts is high in logging areas, as legally defined community management can protect community managed areas from international logging, cancelling concessions. The Kilim Ijim project in Cameroon has reported forest regeneration (measured using satellite data) since the project began in 1987. However, with many projects in their infancy, reporting is scarce.

Environmental outcomes of CBNRM compared to other NRM strategies

In some cases, community owned or managed land appears to be performing better than state land in maintaining wildlife populations. In CAR, for example, wildlife densities were perceived to be higher inside the ZCV than inside the nearby National Park. In Kenya and Tanzania, wildlife is declining both within and outside PAs (see Norton-Griffiths, 2007; Stoner *et al.*, 2007; TNRF, 2008). However, where local landholders have been able to generate significant economic returns from wildlife, numbers are recovering or stable. For example, Western *et al.* (2006) report that the amount of wildlife found in private (individual and communal) conserved areas now exceeds the proportion found

in formal government PAs (40% to 35%). Furthermore, while game counts between the late 1970s and late 1990s in National Parks indicate declines, counts carried out on community conservancies between 1990 and 2005 show stable or increasing populations of game (Western *et al.*, 2006).

Similarly, a number of studies undertaken in Tanzania have sought to assess the effectiveness of traditional forest reserves, (managed by customary institutions) in relation to forest condition, and in comparison to state managed Forest Reserves. Mgumia & Oba (2003) established that although traditional forest reserves in Tabora Region were relatively small in size, they had a greater woody species richness and taxonomic diversity than a neighbouring state managed forest reserve with comparable ecological conditions. Similarly, Mwihikomeke *et al.* (1998) estimated that >7,000 ha of montane forest in 1,740 sites (locally known as mshitu) in North Pare mountains and Handeni districts were being managed through the application of traditional management practices for the protection of sacred forests. A third study from Shinyanga region documents the impact of establishing ngitili, a traditional system of reserving pasturelands and dry season grazing areas by Sukuma pastoralists, which results in a rapid regeneration of trees (Monela *et al.*, 2005). The study was able to document the re-establishment of a total of 152 different trees, shrub and climber species within ngitili, as well as 145 bird species and 21 mammal species. This contrasted with a general decline of forest condition in areas outside established ngitili. In a synthesis of the various quantitative studies that have assessed PFM impact in Tanzania, Blomley *et al.* (2008) found that community involvement in forest management is strongly correlated with improving forest condition and is more effective than either open access or sole state management regimes (Fig 4).



Source: Blomley *et al.*, 2008

Land area under conservation

Although data on trends in specific resources – wildlife population, forest coverage and quality – may be scarce, it is clear that CBNRM has made significant contributions to the extent of land area under conservation (Tables 9 and 10). In Zimbabwe for example, land used for wildlife production under CAMPFIRE protects an area of land roughly equivalent in size to Zimbabwe's Parks and Wildlife Estate taking into account land used for residential and crop growing purposes (Child *et al.*, 2003). Further, Jones (2004b) notes that despite the rapid conversion of wild land to settlements and agriculture in much of Zimbabwe, most of the original twelve CAMPFIRE districts have been able to maintain substantial wildlife areas. In the COMIFAC countries of Central Africa the state PA estate is estimated to be 390,155 km² with an additional 115,201 km² under community management (Coad *et al.*, 2008).

Table 9. Some of the group ranch tourism-wildlife conservancies in Kenya's pastoral rangelands

Conservancy	District	Size
Siana Wildlife Trust	Narok	20,234 ha
Shompole Community Trust	Kajiado	10,000 ha
Ol Kiramatian	Kajiado	10,000 ha
Eselenkei Conservation Area	Kajiado	5,000 ha
Lumo Community Wildlife Sanctuary	Taita-Taveta	45,788 ha
Il n'gawesi Group Ranch	Laikipia	8,675.5 ha
Namunyak Wildlife Conservation Trust	Samburu	30,000 ha
Total PA estate in Kenya, excluding community PAs		8,148,460 ha

Source: Blomley *et al.*, 2008

In Tanzania, the ten gazetted WMAs have a total area of 12,450 km² set aside by villages as wildlife area, with up to 20,000 km² in WMAs that have not yet been formally gazetted. The amount of land set aside by villages as tourism concessions or conservation areas is poorly documented. As but one example, Emboreet and Lolkisale villages have between them set aside about 40,000 ha of land adjacent to Tarangire National Park as tourism concessions, protecting key wildlife dispersal areas (Sachedina and Nelson, In press). Vastly larger but largely undocumented areas are conserved as dry season grazing reserves by numerous pastoralist communities throughout northern Tanzania. PFM is reported to cover a total of 4.1 million hectares on mainland Tanzania, involving 2,300 villages, including 2.2 million hectares as Village Land Forest Reserves (MNRT, 2008c).

In Namibia, communal conservancies accounted for 14.4% of Namibia's land area at the end of 2006 (NACSO, 2007). Crucially, in some areas communal conservancies do not just add to the total land under wildlife management, but link previously discrete PAs (Roe *et al.*, 2006). 18 of the registered conservancies occur immediately adjacent to, or in key corridors between, national parks or

Table 10. Examples of areas covered by co-managed, CBNRM corridors and CCAs in Central Africa

Name	Type	Country	Size (km ²)	Total PA estate of country (km ²) ⁷	Reference
CBNRM National Forest	CBNRM corridor	Equatorial Guinea	5,000	6,420	Mehlman (2006)
The Dzanga-Sanga Special Reserve	Co-managed, multiple use	CAR	6,865	118,565	WDPA (2008)
Foret D'Ngotto	Co-managed forest reserve	CAR	802, with 1,370 extension	118,565	WDPA (2008)
Zones Cynégétiques Villageoises (ZCV)	Co-managed buffer zones	CAR	80,000	118,565	ECOFAC (2009)
Lac Tele Community Reserve	Co-managed reserve	ROC	4,389	36,361	WDPA (2008)
Lossi Gorilla Sanctuary	Co-managed	ROC	2810	36,361	WDPA (2008)
Sanlonga CBNRM corridor	CBNRM corridor	DRC	Still being delimited; approx 5000 from map	302,652	Steel (2008)
Kinigi CBNRM area	CBNRM corridor	Rwanda/ DRC	893	—	Hitimana <i>et al.</i> (2006)
Tayna Nature reserve	CCA	DRC	900	302,652	WDPA (2008)
Reserve Communautaire des Primates de Bakumule	CCA	DRC	1,300	302,652	Vvirasihikya (2003)
Itombwe Massif	CBNRM corridor	DRC	At least 1000 by 2010 (still to be delimited and land use determined)	302,652	Mehlman (2006)
Bakano Forest reserve	CCA	DRC	957	302,652	WDPA (2008)
Lowa forest	CCA	DRC	393	302,652	WDPA (2008)

Source: Coad *et al.* (2008)

game reserves. These 18 conservancies provide 55,192 km² of land being used for conservation objectives in addition to the existing PA network of 114,080 km². This is a 48 per cent increase in Namibia's conservation area (LIFE, 2004).

Annex 3 provides further detail on the land area under formal protection in different African countries and the land under some form of community management.

7. Calculated by UNEP-WCMC from the Feb 2008 version of the WDPA; for further information contact protectedareas@unep-wcmc.org

The downside of positive ecological outcomes – Human Wildlife Conflict (HWC)

In some cases local communities can be the victims of their own CBNRM success. Where wildlife numbers increase – either inside or outside PAs – they inevitably come into increasing contact with local farmers, herders and other residents, often with adverse outcomes – including personal injury (and in extreme cases death); crop damage; livestock killings and so on. Crop and stock losses to wild animals can have significant impacts on poor people. The loss of one or two head of cattle to someone who owns only four or five head will have a far greater impact than someone losing one or two head from a herd of fifty or more. In Namibia, for example, the increase in the numbers of wild ungulates in north-west Namibia has increased competition between wildlife and livestock for grazing, browse and water (Weaver and Skyer, 2003). The Wildlife Integration for Livelihood Diversification (WILD) project in Namibia made some estimates of the value of crops lost to wildlife in two Caprivi conservancies and concluded that the losses represented 18% in Mayuni Conservancy and 22% in Kwandu conservancy of average annual household incomes for the region (Murphy and Roe, 2004).

88

In Central Africa, elephants are the most commonly cited crop-raiding species, creating overnight heavy crop-losses, although a national study of crop-raiding by Lahm (1996) suggests that the less visible cane rat could cause similar levels of damage over a more prolonged period of time, and crested mangabeys were highlighted by Kamiss and Turkalo (1999) as an important crop-raider around Dzanga-Sanga reserve, CAR. Most agricultural production occurs in a small band around villages and roads, and forest close to the village is often burnt and cleared to create fields, which means that fields are directly adjacent to forest habitat, creating direct access for forest species.

A study of crop-raiding in farms surrounding Bia Conservation Area, Cameroon, showed that from 2004 – 2006, 95 farms experienced 103 raids, (Oppong *et al*, 2008), and a previous study by the same research from in 1999 suggested that accumulated losses/farm/year could be as high as 33% (Sam, 1999). In the Dzanga Sanga reserve, CAR, a nine-month study of crop-raiding was carried out in 1999, using a questionnaire in the surrounding villages. However, response rate was low, and this was thought to be because of the lack of compensation for crop-raiding that villagers received from the park, and possibly due to villagers finding their own solutions to elephant damage, namely poaching, which they did not want to discuss with park managers (Kamiss and Turkalo, 1999).

The incidence of crop-raiding events has also been measured in the Kakum Conservation area, Ghana, where the surrounding community suffer severe losses each year; in 2001 a study of crop raiding in 203 farms showed that 26% of farms suffered one or more raid over the year, and the incidence of crop raiding decreased with distance from the park boundary (Barnes *et al*, 2003).

As we have noted previously, a significant amount of Africa's wildlife is still found outside any formally protected area – particularly in the pastoralist zones – and the potential for conflict is thus high and can be a major disincentive for wildlife stewardship. In Uganda for example, Blomley and Namara (2003) note “The net result to frontline communities is that they now suffer a ‘double marginalisation’. UWA has rather elegantly shed some of its responsibilities to local governments in the name of ‘local empowerment’. Local governments, however, without corresponding resources and skills appear unwilling to take up these roles and responsibilities. Traditional coping mechanisms such as hunting and trapping are considered illegal except when targeting a handful of vermin species, while the costs for more labour intensive crop protection measures (such as guarding) fall squarely on the shoulders of frontline communities.” In Gabon, snare hunting is illegal, as is hunting of elephants without a permit (Christy, 1997). Crop raiding elephants can be killed by a government elephant hunter, but costs and lengthy regulations mean that villages often take elephant control into their own hands – and potentially suffer the legal consequences.

Interestingly, the erosion of traditional community structures may be a factor in increasing crop losses from raiding. Lahm (1996) provides an example from Gabon, where changes in land tenure towards government ownership, and high rural-urban migration have resulted in less cohesive, fragmented societies. She suggests that traditional communal practices which united village residents, such as net hunting, planting and cooperative crop protection have been largely abandoned in favour of individually-owned firearms and scattered agricultural plots. Because elephant crop-raiding is widespread and the agricultural system is no longer strategically organised for defence against crop-raiding animals, plantations cannot be protected efficiently (Lahm, 1996).

Recognising the scale and significance of the problem, many CBNRM programmes have, however, developed a range of approaches for dealing with human-wildlife conflict. Muruthi (2005) describes two basic approaches – mitigation and prevention. A third strategy – compensation – is also being subject to increasing interest and experimentation.

Preventative measures: Exclusion of wildlife by use of physical barriers is the most common preventative measure. Perhaps the most striking case of this in East Africa is the fence around the perimeter of the Aberdares National Park in central Kenya – standing around 3.3 metres tall and stretching several hundred kilometres. In southern Uganda, the International Gorilla Conservation Project has constructed a stone wall around the boundary of the Mgahinga Gorilla National Park which has significantly reduced conflicts between local residents and buffalo resident in the park (Biryahwaho, 2002). These approaches are highly expensive, however, and their cost effectiveness has to be questioned. Other less expensive physical barriers include trenches dug along the boundary of Queen Elizabeth and Kibaale National Parks (Uganda) used to deter elephants from crop raiding (Chhetri *et al.*, 2004; Keigwin, 2007), planting of

non-palatable crops such as wheat, lemon grass and *Artemisia annua* (an anti-malarial; Martin, 2008) and the use of repellents such as chilli powder.

In Dzanga-Sanga reserve of the CAR, villagers have constructed their own 'fences' around fields, which consist of a string mounted around the cultivated area, with various objects such as cans, discarded plastic bags etc, suspended from the string (Kamiss and Turkalo, 1999). In 1994 a small electric fence was erected in one village close to Dzanga-Sanga, as a pilot project by the US Peace Corps. Powered with a solar panel, it was intended to provide a low-tech, long-term solution, but its use ended after the departure of the Peace Corps due to a lack of maintenance and interest from the community,

Guarding of crops is a widely adopted coping mechanism, particularly as crops approach their harvesting time, but it places heavy demands on time – and often has negative effects on school enrolments as children are often the ones selected to undertake this assignment (ibid). Guarding is often made slightly easier by the use of simple alarm systems (such as bells, tins etc) which mean the guard does not need to be awake all night long. Drumming, shouting, clapping or 'scare-shooting' all help to drive wildlife away following incursion by wildlife (Muruthi, 2005). A range of other group, or community based interventions that combine guarding with noises designed to scare problem animals have been reported for a range of species including mountain gorillas (Macfie, 2000) and elephants (Sitati *et al.*, 2007). The Human Gorilla Conflict Resolution Programme (HuGo) has had some success in scaring gorillas off community land and back into the park at Bwindi. Groups of local people are organised into Gorilla Monitoring and Response Teams to do this. They are paid in kind, and some have received grants to set up income generating activities (Byamukama and Asuma, 2006). Villages around Dzanga-Sanga in CAR burn Chinese bamboo near the fields, which 'explodes' when burned, and frightens elephants away, albeit temporarily (Kamiss and Turkalo, 1999).

The use of wildlife 'diversions' has been tested in Kenya and Tanzania by AWF. Building of alternative water sources meant that wildlife were less prone to using water sources used by people and livestock and had the immediate effect of reducing conflict. A longer term approach is through the use of landscape management approaches – where land-use planning is undertaken in conflict areas. The removal of crops prone to damage by wildlife, and the introduction of crops that are less prone is one such example (Biryahwaho, 2002).

Mitigation measures: Although prevention is clearly the best option in terms of reducing conflict, at times reactive approaches are required after human-wildlife conflicts have occurred. The main approach under this heading is Problem Animal Control (PAC), most often undertaken by the national wildlife authority. The 'problem animal' can either be killed or captured for translocation. Kenya Wildlife Service has a dedicated Problem Animal Management Unit, and in the UWA rangers at the PA level are allocated to

working on addressing problem animal incidences. As a measure to mitigate damage from wildlife, however, it has proven to be rather ineffective, and Lahm (1996) suggests has often been introduced only to appease villagers. In many cases, while the action may have an important public relations aspect, the animal or animals that are assumed to have caused the conflict may be incorrectly identified and may not be killed – and will continue to inflict damage (Muruthi, 2005).

The problem is compounded by the fact that communication is often poor and the time taken for a message to be passed to the relevant authorities and for a reaction to be effected may be too long and the animals in question may have moved on (*ibid*). This is often observed in Gabon, where controlled shooting usually occurs long after the initial conflict event. Because Gabonese law requires that an elephant be shot within five kilometres of the affected village, delayed authorisations may result in the death of a non-raiding animal while the original culprit(s) may return (Lahm, 1996).

Translocation has also been used for high priority animals or endangered species such as elephants or rhinos as a means to remove specific animals known to be problematic. While it attracts a great deal of publicity and is often very appealing to the general public, the results are often mixed. Apart from being extremely expensive, death of the animal is common, due to the stress of relocation. Even if they survive the move, animals may continue with crop raiding in their new locations, which has the effect of simply moving the problem from one place to another (*ibid*).

Interestingly, safari hunting clients might be more willing to pay to kill problem animals, thereby helping to reduce HWC: “There is interest among clients in hunting problem animals (crop raiders or livestock killers) with the effect that trophy hunting has the potential to generate revenues from animals that would have died anyway and potentially to reduce indiscriminate revenge-killings of wildlife by angry local people. Over 50% of clients are willing to pay more or the same as typical trophy fees to hunt problem animals, even if they are poor trophies (Lindsey *et al.*, 2006)” (Lindsey *et al.*, 2007).

The use of concentrated herbicides on crop raided plantations to kill elephants has been observed in central Gabon (Coad, pers obs, 2005), after elephants caused high crop losses and the death of one hunter. Some villages also construct traps around plantations; neck traps for smaller species such as cane rats, and pits with spikes at the bottom for larger species such as situtunga, bush pig and elephants (Coad, 2007). Families often supplement their main hunting off-take with catches from traps set around their plantations.

Compensation schemes: A wide range of compensation schemes have been tested with varying degrees of success. In the 1990s, Kenya Wildlife Service established a national scheme for compensating people in the event of

damage to crops from wildlife. After a few years the scheme was stopped as it proved to be costly, slow and cumbersome to administer, because the process of verifying claims was fraught with difficulties, fraud and corruption and because it was subject to insufficient funds for covering claims. In addition, the scheme only addressed symptoms rather than underlying causes of the conflict (AESG, 2002).

Around the Nairobi National Park, a local NGO (Friends of Nairobi National Park) developed a scheme to compensate Maasai livestock owners in the event of predation by the Park's lions, leopards or cheetah. However, the scheme proved too expensive to continue and was abandoned after a relatively short period (Muruthi, 2005). An alternative approach is now being explored through the use of insurance policies, where farmers pay a premium for cover against a defined risk, such as predation of livestock. The premium is subsidised by the Friends of Nairobi National Park, and in principle insurance policies could be developed to cover a wide range of wildlife-related risks.

In Namibia a number of attempts have been made to deal with the negative impacts of wildlife on livelihoods. One approach has been the introduction of a scheme that compensates farmers for stock losses to predators that is administered by the conservancies in conjunction with the government and the NGO Integrated Rural Development and Nature Conservation. Clear rules and guidelines have been established for the value of livestock and the grounds on which compensation will be paid (Jones, 2004a). The #Khoadi //hoas conservancy annually spends a significant amount (over N\$100,000) on mitigation and compensation for elephant damage (Jones and Mosimane, 2007), and Torra conservancy has also compensated farmers for crop and livestock losses (Ogbaharya, 2006).

There is no compensation for wildlife damage in Tanzania although the draft 2008 Wildlife Bill provides for 'consolation' payments which are not to be misconstrued as an obligation for compensation. Addressing human-wildlife conflict is carried out by District Game Officers and is in general highly ineffective in mitigating these conflicts which are expanding, as a result of growing human population and Tanzania's recovering elephant population.

CBNRM and land degradation

Outside of forest areas, much CBNRM takes place in Africa's semi-arid rangelands. An ecosystem assessment of Southern Africa – undertaken as part of the MA process – notes that land degradation appears to be linked to overstocking with livestock and that there is a particularly high correspondence between degraded land and areas of communal land tenure (Biggs *et al.*, 2004). Agriculture, including communal grazing, can be damaging to wildlife (J. T. Du Toit and Cumming, 1999; Higgins *et al.*, 1999). In Southern Africa, "over-cultivation, overgrazing, bush fires, cultivation of marginal and easily eroded land, mechanization and the widespread use of

chemicals and pesticides, have intensified the degradation of the soil and vegetation and led to rapid decline of species types and their numbers” (Darkoh, 2003). However, recent models of historical climate changes suggest that non-equilibrium dynamics may have dominated in rangelands (Hahn *et al.*, 2005). These findings call into question the widely held belief in equilibrium dynamics which has underpinned a lot of conservation planning and sustainable off-take models. Leach *et al.* (1999) also note that issues of carrying capacity and environmental degradation have been highly politicised, and there is much debate about the temporality of the apparent degradation of rangeland.

What is clear, however, is that the extensive wildlife production systems being developed by many of the CBNRM programmes are, by nature, multi-species systems occupying a range of biological niches. Theoretically these multi-species production systems reduce the pressure on rangelands compared with single species production systems (such as cattle ranching) and agro-pastoral systems (see Bond *et al.*, 2004; Child, 1988). The limited data available suggests that land which has reverted to wildlife production after a period of intensive single species production systems, soon shows gains in diversity, resilience, and ecosystem function (Du Toit, 1999).

This is backed up by a recent USAID/FRAME study which looked at the contribution of CBNRM to desertification in a number of Southern Africa countries. These studies concluded that CBNRM can be a valuable strategy among others in combating desertification (CAR, 2007; Grossman and Holden, 2007; Jones and Mosimane, 2007).

In West Africa CBNRM and decentralisation of land management has been offered as a solution to, rather than a creator of, land degradation. Many countries have northern drylands with southern forested lands. Historically complex and uncertain tenure laws have exacerbated poor land use practices, accelerating land degradation in the north, and putting pressure on southern forest habitats as farmers migrate southwards in search of fertile land. This has often led to policies of decentralisation, in a bid to restrict access and set up community-based land management plans.

For example in Benin, where traditional land practices have been relatively unaffected by state tenure policies, they have been markedly affected by increasing population densities and resulting land degradation. Traditional land rotations (leaving plantations fallow for a number of years to allow time for soils to recuperate) are often abandoned to increase profits from the land, pay rents, or increase the amount of land that can be sharecropped. At the same time, in the struggle for land (and power), elders are discouraging, or preventing the sharing out of land to family heirs (Mongbo, 2008). This reduces the land available to young farmers, and land shortages mean that many farmers become tenants or sharecroppers, who do not invest in soil

fertility because of the need to produce a yearly, short term profit. The planting of trees – a traditional 'claim' to land, – is discouraged or forbidden by landowners. All this in turn reduces soil quality, contributing to land degradation and further land shortages (Adjei-Nsiah *et al.*, 2007).

In a bid to deal with the current unsustainable land use practices, land degradation, and rural poverty, the Government of Benin has been working with donor organisations to successfully decentralise its tenure systems, and set up community tenure and land management schemes. Benin's relatively new NRMP was piloted and funded by the World Bank from 1992 – 1999, with the aim of developing and piloting community land management plans, in part to reduce land degradation (World Bank, 2005). Similarly, the *Gestion de terroirs* approach in Burkina Faso had a significant focus on the improvement of soil/water conservation techniques, and terroir management plans often involve the zoning of categories of land (forest, fields, fallows and pastures), which aim at restricting resource extraction to a limited amount of users. This reflects the focus of the *Projet National de Gestion de Terroirs* and its donors towards the intensification of land use and the privatisation of property rights, based on the premise that this will create incentive for better land management practice and will suppress land related conflicts that are also thought to encourage land degradation (Gray, 2002).

The potential role of CBNRM in addressing broader environmental challenges of land degradation and climate change is discussed in more detail in the next section.

CBNRM as a mechanism for addressing global environmental challenges

Ivan Bond

The preceding chapter reviews what CBNRM has achieved in terms of empowerment, economic benefits and ecological impact across sub-Saharan Africa. The assessment is severely constrained by the very limited availability of accurate and relevant data-sets. Broadly the chapter indicates that some communities have been able to establish proprietorship over land and natural resources. This control is often highly contested, sometimes opportunistic and has, in some cases, been reversed. Economic benefits have been generated but typically these complement existing sources of revenue at a household level. Importantly, there are often additional costs, especially where people are living with wildlife. Similarly, the ecological impacts are difficult to determine and highly variable with the result that reviews such as ours depend largely on case study approaches rather than population or landscape level assessments.

This chapter will consider CBNRM and the implementation of a sub-set of Multilateral Environmental Agreements (MEAs) known as the Rio Conventions⁸. MEAs are international legal agreements between a large number of states with the common goal of environmental protection. They are the preferred tool of the international community to address environmental issues that cross national boundaries and are therefore regional or global in scale (TIEMPO, 2004). They are not new, the first MEAs having been agreed in the early 1900s (Gray, 2003). In total, there are now over 700 MEAs (TIEMPO, 2004). Assessing the effectiveness of MEAs is often very difficult and can become highly politicised. There is little doubt that due to their scale and scope, effective implementation of the Rio Conventions is challenging and that tangible results will depend on unprecedented levels of global action, particularly in addressing climate change (Stern, 2007).

In the context of this topic, the origins and the evolution of CBNRM programmes and projects across Africa is important. Across the continent, CBNRM programmes have evolved endogenously primarily in response to local conservation and development problems, albeit with some being very heavily supported by external multilateral and bilateral agencies (see Chapter 2). Many of these programmes have evolved over decades, often starting as small pilot projects unsupported by legal frameworks and becoming large programmes with legal and policy backing. CBNRM programmes, therefore, are not activities that have been developed with the explicit aim of fulfilling the objectives of one or more of the MEAs.

8. Three MEAs were launched at the United Nations Conference on Environment and Development (the so-called 'Rio Earth Summit') held in 1992 in Rio de Janeiro, Brazil. These were the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and the United Nations Convention to Combat Desertification (UNCCD). Collectively they are often referred to as the 'Rio Conventions'.

Although drafted in response to different problems and with differing objectives, the Rio Conventions have many mutually supporting elements (Schwarte and Hyvarinen, 2008). For example, the more intense and far-reaching climate change is, the greater the loss of plant and animal species will be (MA, 2005). However, successful landscape level biodiversity conservation in tropical forests (supporting the aims of the CBD) will also mitigate the effects of green house gas (GHG) production (supporting the aims of the UNFCCC) and that in turn may reduce the effects of desertification in another location (supporting the aims of the UNCCD).

As well as reviewing the efficacy of CBNRM in meeting the aims of the Rio Conventions, this chapter also examines the increasing importance and dominance of climate change. Many believe that climate change is the single biggest challenge facing society over the next century (Eliasch, 2008; Stern, 2007). One key policy option, Reduced Emissions from Deforestation and Degradation (REDD) presents both significant opportunities for existing CBNRM programmes as well as rich potential for the exchange of information and lessons learned.

The Convention on Biological Diversity (CBD)

The stated overall objectives of the CBD are: “The conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.”

The Convention specifically recognises the potential role of local communities in biodiversity conservation through Articles 8 (j), 10 (c), 10 (d) and 11 (Roe *et al.*, 2006). Some of the areas covered by these articles include maintenance of traditional knowledge, benefit sharing, protection of customary rights and the importance of financial incentives in biodiversity conservation. Furthermore, while not legally binding, the ‘ecosystem approach’ adopted by the CBD [Decision V/6] includes the principle of decentralisation to the lowest appropriate level of management. The CBD also has a number of thematic areas or work programmes which have implications for CBNRM. Notable examples include:

- The Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity – which includes guidance on local empowerment as well as the equitable sharing of benefits.
- The work programme on Traditional Knowledge, Innovations and Practices – which is examining, *inter alia*, mechanisms for ensuring effective participation by indigenous and local communities in decision-making and policy-planning.
- The Programme of Work (PoW) on Protected Areas which includes work on governance, participation, equity and benefit-sharing. One of the targets

of this PoW is: “Full and effective participation by 2008, of indigenous and local communities, in full respect of their rights and recognition of their responsibilities, consistent with national law and applicable international obligations, and the participation of relevant stakeholders, in the management of existing, and the establishment and management of new, protected areas.” Community-conserved areas will be a major focus in achieving this target.

Overall it can be seen that there are clear links between the principles and approaches of CBNRM and the objectives and provisions of the CBD – both promote the sustainable use of biodiversity, benefit-sharing, community involvement, decentralisation, and an incentive-based approach to conservation.

The UN Convention to Combat Desertification (UNCCD)

The overall objective of the UNCCD is: “To combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21⁹, with a view to contributing to the achievement of sustainable development in affected areas.”

As in the CBD, the participation and involvement of local communities is emphasised throughout the UNCCD, based on the founding principle in Article 3 (a) that: “The parties should ensure that decisions on the design and implementation of programmes to combat desertification and/or mitigate the effects of drought are taken with the participation of populations and local communities and that an enabling environment is created at higher levels to facilitate action at national and local levels.” The UNCCD also recognises the importance of secure land and resource tenure, and forms of decentralisation.¹⁰

The UNCCD places considerable emphasis on promoting the sustainable use of natural resources [Article 3 (b)], alternative livelihoods [Article 10. 4], and capacity building of local communities for sustainable land and resource management [Article 19]. Annex 1, the Regional Implementation Annex for Africa, suggests that national desertification action plans should:

- include measures to delegate more management responsibility to local communities [Annex 1, Article 8. 2. (c)];
- diversify rural incomes and employment opportunities [Annex 1, Article 8. 3. (a)];
- ensure integrated and sustainable management of natural resources [Annex 1, Article 8.3.(b)];

9. Agenda 21 is the plan of action that was agreed at the Rio Convention for coordinated action to be taken internationally, nationally and locally (see www.un.org/esa/sustdev/documents/agenda21/index.htm)

10. The UNCCD refers to decentralisation and delegation of more ‘responsibility’ to local communities, but does not refer to the devolution of ‘authority’ to communities, a crucial element for promoting sustainable resource management (see Murphree, 2001) and an important component of CBNRM in southern Africa.

- improve institutional organisation through decentralisation and the assumption of responsibility by local communities and the establishment of local structures [Annex 1 Article 8.3.(c)]; and
- amend the institutional and regulatory framework to provide security of land tenure for local populations [Annex 1 Article 8.3.(c)].

There is strong convergence between the key principles of the UNCCD and the generic approach to CBNRM. Both emphasise participation and the development of creating an enabling environment for action at national and international levels. Importantly, the UNCCD recognises principles of sustainable use, devolution and the central issue of tenure in the management of land and natural resources.

The UN Framework Convention on Climate Change (UNFCCC)

The main objective of the UNFCCC is to stabilise GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system¹¹. The very nature of climate change means that the status of global biodiversity and the process of desertification are both inextricably linked to the speed and extent of climate change. Climate change is already considered to be one of the five major drivers of biodiversity loss (MA, 2005). The impacts of climate change on sub-Saharan Africa are significant and potentially imminent. For example, by 2020 an estimated 75 to 220 million people in sub-Saharan Africa could be exposed to increased water stress due to climate change and over the same time period, yields from rain-fed agriculture could be reduced by up to 50% in some sub-Saharan Africa countries (IPCC, 2007).

98

From a development perspective, the impacts of climate change on biodiversity and desertification are likely to affect the poor hardest due to their dependence on natural resources to meet livelihood objectives (Peskett *et al.*, 2008).

There are no specific provisions for CBNRM within the UNFCCC. However, the UNFCCC aims to stabilise GHGs as quickly as possible, so that ecosystems can adapt naturally to climate change; food production is not threatened; and efforts to minimise GHG emissions and climate change are consistent with sustainable economic development.

The existing Clean Development Mechanism (CDM) of the Kyoto Protocol does not make specific provision for community-based carbon sequestration schemes but certainly does not preclude these. The principle opportunity for communities to participate in the CDM is through its afforestation and reforestation (A/R) option. However, only one project has been ratified due to significant technical, economic and political constraints posed by the CDM framework and there is a strong sense that it has been a failure (Angelsen and Wertz-Kanounnikoff, 2008).

11. http://unfccc.int/essential_background/convention/items/2627.php

Can CBNRM contribute to global goals?

The previous chapter has highlighted some of the achievements of CBNRM as far as environmental goals are concerned. These findings support a recent, but broad analysis of CBNRM in southern Africa (Roe *et al.*, 2006) which found:

- **Biodiversity:** There are good examples in Namibia, Botswana and Zambia where the main programmes of CBNRM have contributed to the maintenance of existing wildlife habitats and wildlife, allowing the recovery of previously depleted resources and facilitating the re-introduction of locally extinct species.
- **Climate change:** The maintenance of intact landscapes through CBNRM processes prevents further emissions from landuse change, albeit the carbon stored in the semi-arid landscapes of southern Africa (estimated at 140t /ha) is substantially lower than that found in tropical forests (250 t /ha¹²). Tanzania provides a good example through its CBFM programme under which 2.1 million hectares of woodland is managed by villages (Lund and Treue, 2008; MNRT, 2008c).
- **Desertification:** The maintenance of wildlife as a primary landuse has been shown to have considerable ecological advantages over livestock and agro-pastoral systems in semi-arid and arid rangelands (Child, 1989 and (Du Toit, 1999). Indirectly, unsettled land also provides resource sinks while many CBNRM programmes provide some revenues that mitigate the worst impacts of either climatic or economic stress.

MEAs are enormously challenging to implement. Much of the international environmental legislation is still very soft in nature which has failed to generate a set of binding rules (Birnie and Boyle, 2002). Secondly, many of the MEAs are unstructured and often developed in response to environmental disasters. Thirdly, nation states have a very poor record of the implementation of MEAs. There are positive aspects to the MEAs. In a relatively short time period, international environmental legislation has moved from the allocation of land, resources and a means of settling disputes to a growing set of instruments designed to address major international issues.

Analysing the quantitative relationship between the contribution of CBNRM to the delivery of MEAs at a continental or even regional scale is fraught with considerable difficulty. Reasons for this include the non-linear relationships between variables (such as the impact of human settlement on wildlife numbers), the inherent variability of key ecological processes (such as rainfall), the paucity of data both from Africa and especially from CBNRM programmes and the absence of baselines against which additionality can be measured (Ferraro and Pattanayak, 2006; Roe *et al.*, 2006; Sutherland *et al.*, 2004)

12. IPCC (2007)

The challenge of implementing MEAs, particularly in Africa, has already been noted. There are several reasons why many, if not all, African governments are poorly equipped for implementation. Firstly, MEAs are widely perceived as focusing on the environment and not dealing with pressing poverty issues (TIEMPO, 2004). Consequently, government ministries with responsibility for environmental issues are politically weak, under-resourced, under-staffed and burdened by considerable expectations and expanding mandates (see for example Cumming, 2004; TIEMPO, 2004). The situation is exacerbated by recent trends in bilateral and multilateral donor support to focus on supporting livelihoods, human health and education through direct budget support (Collier, 2005). There are also other constraints such as the weakness of local government, limits upon civil society and the absence of private sector stakeholders.

Two different sets of evaluation criteria can be applied to the current and future contribution of CBNRM to the fulfilment of the MEAs. The first is their contribution to physical indicators of performance such as area of land conserved or the amount of carbon dioxide not emitted. Generally, this is not a useful or meaningful approach to take. This is because, in all but a few cases such as Namibia¹³, the scale of CBNRM programmes is still small compared to the physical extent of landuse change.

100

The second approach is to consider CBNRM programmes as pilot initiatives that can both inform and contribute to the implementation of programmes that are specifically designed to meet the MEAs – for example REDD. This includes the contribution of CBNRM programmes and projects to many of the challenges that are limiting the implementation of the MEAs by national governments. For example:

Conservation vs development: In sub-Saharan Africa, and particularly in Southern and East Africa, CBNRM represents and equates to sustainable development. It therefore provides a model, albeit at limited geographical scale, by which the many goals of the MEAs can be implemented while also addressing the development needs of rural people.

Financial constraints to MEA implementation: Many CBNRM programmes in Africa have benefited considerably from donor support. For example, CAMPFIRE in Zimbabwe benefited from external support of at least US\$35 million between 1989 and 2003 (Frost and Bond, 2008). In many cases these programmes would not have been possible without this form of financial assistance. Many CBNRM programmes also generate substantial revenue from the use of wildlife and non-timber forest products. Again while the scale might be limited, CBNRM provides a model whereby governments do not have to bear the full burden of the costs implementation.

13. By the end of 2007, communal land conservancies covered over 115,000 km² which is about 39% of all communal land and 14% of Namibia's total surface area (NACSO, 2008).

Local government involvement: One of the major challenges facing African governments is that MEA implementation is seldom communicated and resourced beyond the responsible central government ministry. Local governments rarely understand their role or have the skills and financial resources to address the issues. CBNRM processes in all four regions place a strong emphasis on devolution of power from central government to different combinations of local government and communities. Like the preceding arguments, CBNRM programmes or pilots are demonstrating how local governments can be involved with the implementation of MEAs.

Role of private sector: Private sector partners play a key role in the wildlife based CBNRM models of east and southern Africa. These models and two decades of operational experience show how private sector companies can effectively work with local government and communities (Child and Weaver, 2006). The evidence shows that these partnerships work best where there is strong proprietorship over resources at a local level and competition between companies for the right to operate (Child and Weaver, 2006). The implementation of MEAs has largely been the responsibility of government agencies. As with the other examples, CBNRM models provide an example of how the private sector can contribute to successful conservation and development activities.

In this section, we have argued that the major contribution of CBNRM to the MEAs has been through the establishment of working models and programmes of devolved management. This approach specifically avoids direct quantification and attribution of conservation gains to the Rio Conventions. There are several reasons for this approach. These are; the small geographical scale of CBNRM programmes relative to the massive changes in land use across the continent; the absence of good monitoring and evaluation data and the limited baselines. However, not all the experiences have been positive. The opportunistic behaviour of some RDCs in Zimbabwe over revenue generated from wildlife, provide us with important lessons about the legal and policy frameworks that are needed if communities are to be genuinely empowered to manage land and natural resources (Bond, 1999).

101

REDD – lessons and linkages with CBNRM?

Approximately 17% of global annual GHG emissions are from deforestation and forest degradation (IPCC, 2007). This has stimulated a wide range of activities and intense debate about the potential for REDD for climate change mitigation (Eliasch, 2008). Reports by Stern (2007) and Eliasch (2008) have added further impetus to the case for REDD. Both of these reviews agreed that:

- effective action on GHG emission has to include measures to deal with deforestation and forest degradation; and
- for industrialised countries, payments for avoided deforestation were cost-effective compared with the cost of mitigating other sources of GHGs.

REDD is based on the principle of developed countries making payments to developing, forest-rich countries to conserve their forests in order to reduce GHGs emitted through deforestation and as a mechanism to store carbon. As such, REDD is an example of a relatively new, market-based approach to conservation termed 'payments for environmental services' (PES). PES is predicated on the fact that many ecosystem services are public goods that provide wider benefits to additional people beyond the ecosystem manager or custodian (Engel *et al.*, 2008). Those who benefit from these services could, where there is a compelling financial case, make a payment to those who are responsible for maintaining or providing a defined ecosystem service.

There are many similarities between PES and CBNRM – particularly in the context of incentives for land and resource management (see Frost and Bond, 2008). Arguably, the key theoretical difference between PES and CBNRM lies in the conditionality of payments (Wunder, 2005). Many CBNRM programmes and projects rely on the neo-classical economic argument that wildlife and wild land will be managed and therefore conserved, where the benefits of living with wildlife significantly exceed the costs (Bond, 1999; Child, 2004). In this context, many ecosystem services that are generated by the management of large areas of natural habitat are considered as positive, but unvalued externalities (Bond, 1999).

102

PES differs in that payments are negotiated by a willing buyer and seller of a service or bundle of services. Payments are then only made if the service is provided (Wunder, 2005). Importantly though, PES solutions are not appropriate to all conservation problems but are a specific tool that can be used where stakeholders other than the land managers derive significant benefits from their maintenance (Engel *et al.*, 2008). REDD is one such case.

Although it is a relatively simple concept, there are substantial challenges to implementing REDD effectively, these include:

- agreeing key design issues at international, national and sub-national levels;
- establishing costs and the potential of REDD in each case;
- determining the scale at which REDD should be operationalised;
- matching a country's needs with financing sources;
- setting benchmarks against which REDD payments should be made;
- dealing with leakage (i.e. negative impacts are not just displaced from one area to another);
- ensuring that changes to the use of land and natural resources are permanent and not just short-term;
- monitoring, reporting and verifying carbon emissions;
- measuring and monitoring forest degradation; and
- achieving REDD co-benefits and avoiding doing harm.

(Angelsen and Wertz-Kanounnikoff, 2008)

While there may be some conceptual and technical differences between the current suite of CBNRM programmes and future REDD programmes, there are also many similarities in terms of their implementation. For example, tenure is an issue that is currently central to many CBNRM programmes and will be critical in terms of the future success of REDD (Cotula and Mayers, 2009). Strong and clear tenure rights not only delineate who has rights over land, trees and (in the future) carbon finance but they also provide communities with leverage over government (Cotula and Mayers, 2009). Typically, land and resource tenure in sub-Saharan Africa is complex with multiple forms of tenure (state, traditional, de facto and private) but also highly contested between stakeholders. The wildlife based CBNRM programmes in southern Africa have developed ingenious legal mechanisms to devolve user rights over wildlife from central government to local government and communities (Jones and Murphree, 2004). However, while these have allowed programmes to be implemented they have not resolved the key issue of who controls the land.

In addition to the climate mitigation goals of REDD, there is growing and widespread understanding that in some countries REDD will not be successful without addressing additional goals such as health, education and biodiversity conservation. This is often referred to as REDD++¹⁴. The cost of REDD has been estimated in the order of US\$53 billion per annum (Brown and Bird, 2008). These payments will be made to some of the poorest countries where governance is a critical issue. To be effective and efficient, there will need to be substantial improvements in governance so that REDD payments reach land managers and farmers (Bond *et al.*, 2009). Alternatively, options for implementing REDD programmes under conditions of weak, but possibly improving, governance need to be developed (Cotula and Mayers, 2009).

103

Both REDD and CBNRM are incentive-driven approaches to land management. The exchange of information is considered critical to the success of REDD (Eliasch, 2008). Pilot REDD and CBNRM programmes need to exchange lessons about the challenges of using incentives for natural resource and land management. One important lesson from CBNRM for example, is that national government does not provide an effective supply chain for revenues to resource managers. The challenge is linking farmers to the international carbon market without going through government. One option being tested in Brazil is to use commercial banks to transfer payments from the voluntary carbon market to farmers and community organisations (Viana, 2009).

Monitoring is another area in which sharing information and experiences can help both REDD and CBNRM stakeholders. REDD, especially if linked to the market, will need robust data for monitoring, reporting and verification of avoided deforestation and land use change (Wertz-Kanounnikoff and Verchot, 2008). These monitoring requirements will be technically and institutionally challenging

14. A good model to be emulated is the Balsa Floresta Programme in Amazonas State, Brazil that deals with education, health and other civil issues (Viana, 2009)

for both donor and recipient governments. The CBNRM experience can provide valuable lessons on methodologies that have been tried and tested such as the monitoring orientated management systems that have been developed in Namibia which are centred on community information (Stuart-Hill *et al.*, 2006).

As well as sharing lessons and experience, CBNRM programmes provide an existing framework and community architecture on to which REDD can be added without incurring significant start-up costs. This is especially important in the moist tropical forests of west and central Africa that store considerable amounts of carbon, and in the countries of east and southern Africa where there are strong CBNRM programmes (for example the CBFM programmes in Tanzania).

Conclusion

This chapter examines CBNRM in sub-Saharan Africa as a mechanism for delivering the objectives of the three MEAs that relate to climate change (UNFCCC), biodiversity (CBD) and desertification (UNCCD). There are common objectives, as well as mutually re-enforcing elements, across all three agreements. Due to the immediate, widespread and severe consequences of climate change, the UNFCCC is becoming the key treaty for countries.

104

This chapter argues that CBNRM programmes have made small contributions to some of the objectives of the treaties. But in the context of the geographical scale of the challenges these gains are relatively minor. A much more significant contribution of CBNRM is its ability to demonstrate how sustainable development programmes can be implemented, with the inclusion of local government and private sector partners, where development goals are of equal importance to conservation objectives and opportunities exist for government not to bear the whole financial burden.

For countries in sub-Saharan African, the major issue is how payments for REDD will be accommodated in the post-Kyoto Protocol. The experience from CBNRM provides many valuable lessons for imminent pilot REDD programmes and projects particularly around the role of financial incentives for landuse. In addition, existing CBNRM programmes provide ready opportunities on to which REDD pilots could be added.

CBNRM in Africa: Current constraints and opportunities

Marshall Murphree and Russell Taylor

Introduction

Murphree's (2008b) three pillars of empowerment, benefits and conservation underpinning CBNRM are evident, conceptually and in practice, as a guide to understanding and implementation in most formal CBNRM programmes in Africa. Nevertheless, as this review shows, across the Continent CBNRM is defined and understood somewhat differently from region to region and indeed within regions. Consequently it is shaped and perceived in various ways. This is not surprising. CBNRM exists in a variety of ecological, economic, social and policy contexts which inevitably shape the profile of its specific manifestations. Each CBNRM enterprise is context and content specific; no two are identical.

As a consequence it is dangerous to over-generalize about CBNRM and its components. This is not to say that CBNRM is completely amorphous in form or content. From the many examples given in this book we would, for instance, suggest that generally most formal CBNRM projects are dynamic and fluid, evolutionary and with a trajectory of 'failure' or 'success' which is not uniform but rather variable. They are endeavours in which the processes involved are usually more important than structure, and in which the agency of individuals is critical. Importantly, although generally considered conservation projects, they are almost without exception politically embedded, although this is often not recognized. Beyond these generalizations it is rash to venture. The implementation of CBNRM projects aiming to yield environmental health, empowerment and general benefits to rural peoples is carried out in a myriad number of contexts involving a myriad number of challenges.

One response to these challenges at the policy level has been to list and categorize them, with corresponding prescriptions being listed. The resultant compilation is frequently referred to as a 'tool box', to then be propagated and applied across a range of situations. While there may be certain benefits to this approach, this prescriptive approach is unlikely to have widespread positive results since its 'fit' with on-the-ground reality is inevitably imperfect. In this chapter we have taken a different approach, choosing rather to aggregate what we consider to be the greatest contemporary challenges to CBNRM under five generic headings. These constitute five areas of challenge where CBNRM has demonstrated its problems, resulting in the failure, inertia or perverted results of specific projects. While discussing these areas as challenges or constraints, we also see them as opportunities since it is at these very loci of constraint that the potential for change in CBNRM from its current status as a disputed conservation and development technique to a major force for African agrarian change lies.

The first two of our headings deal with conceptual issues, the visions we hold of CBNRM, and its socio-ecological and socio-political location. This is a fundamental 'mind-set' collection of perceptual assumptions and imperatives which influence analysis and action. We contrast two prevailing paradigms and suggest that the techno-interventionist model which has dominated modern formal CBNRM needs to be revisited and modified to fit African rural ecological and aspirational realities. Our last three headings deal with implemental constraints and opportunities in the arenas of communal capacity, scale and the alignment of local and external facilitation.

Re-affirming the community and commonage

The review equates CBNRM with "the promotion of local participatory and accountable institutions with authority over land and resources" but we need to explicitly recognise this as nothing new. The review points to numerous examples of informal CBNRM, much of which however, has been in place as local indigenous versions for centuries at least, be it good, bad or otherwise. Importantly though, CBNRM practice was reflected through the behavioural norms of customary authority and sanctions. Thus we need to move away from the notion that CBNRM, the new formal version, has been sprung on the rural African landscape in just the past 20 years or so.

106

The older traditional CBNRM began to collapse under colonialism when the State appropriated land and other resources for its own designs. The removal of rights to land and resources was accompanied by an upward accountability from the residents of what became essentially centrally administered but communally occupied land. In the former Southern Rhodesia, now Zimbabwe, implementation of the Land Apportionment Act during the 1930s saw large scale displacements and relocation of people to what became 'over-crowded' communal areas where any meaningful implementation of traditional CBNRM on a large scale was rendered largely ineffective. Twenty years on in attempts to 'modernise' communal agricultural practice and limit perceived land degradation, the Native Land Husbandry Act of 1951 (Scoones 1996, Alexander 2006), while arguably technically sound, not only failed dismally as such but also politicised the issue of land well beyond the intended techno-scientific remedies it proposed. Even so, informal CBNRM continued, and still continues in many communal lands and their equivalents elsewhere across the Continent, along well established lines of traditional understanding of NRM (Scoones 1989), often flying in the face of conventional wisdom (Scoones 1996).

In Francophone West Africa large-scale pastoralism accords with a strong attachment to land, both spatially and temporally, emphasising the importance of place as opposed to resource as reflected in the concept and practice of 'Gestion les Terroirs' (this volume), despite competing modern state-imposed and traditional management systems (D. Dulieu pers.comm.). Nevertheless, post-independence states continue to reject traditional management regimes in favour of the dictates

of conventional science, for example as regards controlled grazing management. Despite this wisdom coming under increasing attack as empirical evidence for non-equilibrium ecosystem dynamics in dryland savannas across the world becomes increasingly strong (Walker and Abel, 2002), it remains embedded in centralised technocratic thinking. Traditional management systems however, understand non-equilibrial systems well, as evidenced by the ground-breaking work of Ellis and colleagues amongst Turkana pastoralists in Kenya (Ellis and Swift 1988).

Hence this review's assertion that an essential component of the new formal CBNRM needs to be underpinned by institutional, legislative and/or political reforms that return real decision making authority to the local level, but equally that these are not forthcoming. This may be so but what we find in numerous instances is *de facto* or 'informal' CBNRM in practice, and not always fundamentally different from 'formal' programmes but perhaps more strongly embedded in local norms and practices. Perhaps the underlying difference between these two operational modes is that formal CBNRM still demands 'upward accountability', reflective of decentralisation approaches. Hence the preoccupation of proponents and practitioners to date with the needed policy and legal reforms towards devolution, which informal CBNRM already practices, i.e. 'accountability downwards' to a local constituency, and to meeting local livelihood and survival needs.

So even in post-colonial African states, communities still continue to endure, and aspects of customary systems of governance and environmental stewardship persist even if limited in authority. Under state tenure, communities still divide land and resources into what is private (household) and common, i.e. the commonage, and manage these accordingly. Moreover, customary CBNRM has evolved to manage the commons, all of it all of the time. In this traditional context we do not have to expand either the scope of the resources being managed or the management structures themselves that are involved.

To what extent need distinction be drawn between 'formal', i.e. a state-supported, structured and funded programme, and 'informal' CBNRM, including 'everyday use'? Whereas a legal framework may well be absent or only partially complete in the case of the former, local sanctions and traditional authority may well frame and bound CBNRM in the latter. Moreover, informal CBNRM may be functioning as well (or as badly) as any formal CBNRM. Thus CBNRM can be viewed as a continuum of management regimes from traditional to modern, informal through to formal and not as any form of dichotomy. This should not preclude traditional management in a modern economy, nor formal CBNRM programmes as apart from or different to traditional management regimes. Indeed, one or more forms may function together or separately in space and time. Consequently we have two CBNRMs. One customary, and generally high in internal legitimacy but low on external legitimacy. The other formal with high external legitimacy but low internal legitimacy. They co-exist but the new forms need the internal legitimacy of the old, and the old needs external legitimacy, particularly in the eyes of the state.

An explicit recognition of the reality of this co-existence will permit a mixing of the two forms of CBNRM in order to form a single condition with internal and external components. This should lead to a collective communal governance of the commons, with various and varying inputs of the traditional and the modern, grafting recent imported innovation onto deep historical roots. All of this though, depends on security of tenure over land and resources, and access rights to these, all of which are or have been, part of traditional African tenure systems (Rukuni 2009). Land tenure security is defined as the certainty of continuous use with which Rukuni associates four sets of rights:

- **Use rights** – rights to grow crops, trees, graze livestock, make permanent improvements, harvest natural resources etc
- **Transfer rights** – rights to sell, give, mortgage, lease, rent or bequeath
- **Exclusion rights** – rights to exclude others from using or transferring
- **Enforcement rights** – refer to the legal, institutional and administrative provisions to guarantee use, transfer and exclusion rights

Community enablement

One of the few generalisations which can be made about rural sub-Saharan Africa is that after the onset of colonial occupation most non-urban land and the resources associated with it were legally appropriated by the state. Notable exceptions included Ghana and the private alienation of land in countries with significant white settler populations. Rural land was legally turned into state land as protected areas (primarily under state wildlife and forestry agencies, typically 5-20% of total land area, cf Annex 3) and the balance (usually more than 60%) under a range of designations such as 'communal land', 'tribal land', 'customary land', 'trust land', etc. was left for the indigenous inhabitants who, in pre-colonial times, occupied and used it under a variety of land and resource use systems. In effect ownership¹⁵ of the land and resources of these populations were expropriated from them and they became tenants of the state, subject to the whims of state planning and regulation. In most cases they were granted usufruct rights to subsistence tillage and grazing and limited access to forest products for domestic use. Economically valuable resources (minerals, timber, wildlife) were expropriated by the state and its private sector allies and local exploitation criminalised.

Limited in their ability to administer these communal areas, colonial governments generally relied on the traditional authority systems, formerly in place largely for civil governance. These systems were essentially communal in nature, combining hereditary authority and collective normative consensus. Severely limited by the state in authority on issues of land and resource governance, they proved to be remarkably durable (cf. Latham 2005, Sithole 1999). This durability and effectiveness is influenced by a number of factors, including the cohesiveness of the regime concerned, the external environment (cf. Moore 2005) and the

15. For a extended discussion on the meaning of ownership and tenure see Barrow and Murphree (2001:29-31)

personal agency of individuals in leadership positions. The internal legitimacy of these leaders is highly variable and debates about 'traditional leadership' are often flawed by unwarranted generalizations. The main point to draw from this discussion is, however, the fact that CBNRM had existed in pre-colonial Africa for centuries, and has continued, despite the expropriations of colonialism, down to the present.

This condensed description emphasises the emasculated condition under which inhabitants of state lands typically exist. Their tenure rights are weak and they have no clear rights to the economically valuable resources which were historically theirs. They lack the security required as an inducement for conservation investments in the future. Regulations preclude the opportunity for them to experiment with the use of their resources. They have no negotiating rights and may at any time be subject to the incursions of agreements made between the private sector and the state. They have no collective legal persona and are effectively regarded as perpetual legal adolescents. Under these conditions it is hardly surprising that efforts at rural development in sub-Saharan Africa are largely stagnant. Such conditions remove the incentive for the conjunction of human energy and resource richness which exists in the vast stretches of state (or communal) land in the African landscape and puts in its place short-term survivalist strategies which serve neither the interests of populations or the environment. A radical transformation in the tenure conditions applying to these lands is required, a transformation which will neither be swift nor uniform. To be properly effective such an evolutionary transformation needs to match tenure provisions with ecological and social requirements and is likely to move in the direction of a mosaic of land use and tenure patterns.

109

The situation has called for an agrarian revolution in Africa, both in the past and in the present. The question has been asked as to the place of CBNRM in such a transformation and the suggestion made that modern, formalized CBNRM has not adequately addressed this issue. It is interesting to note that in Zimbabwe's CAMPFIRE Programme the issue was specifically addressed in its foundation document, where the ultimate objective of the programme was stated to be "the realisation of an agrarian system able to optimise land-use patterns and maximise group and individual investment and effort" (Martin 1986:19) and where the proposal was to devolve full ownership rights over land and resources to legally registered natural resource cooperatives corresponding to the common property regimes of participating communities. Regretfully this policy objective did not survive, with the powerful elite preferring to retain ownership of the assets of state land under government control. Devolution was in fact to be decentralization of ownership to district councils only and to involve only certain resources. As Murombedzi has put it, "The top-down preferences of central government on communities [had] merely been replaced by the top-down preferences of local governments on communities" (Murombedzi 2001:255).

This example of the centre's resistance to devolving land and resource ownership to the periphery is replicated with a plethora of examples from different countries in this review. It is the greatest single reason why the performance of CBNRM

falls so short of its promise. As an idea devolution has both technical and political appeal, and most African governments proclaim that it is part of their policy. What is offered in practice is however something else than ownership: decentralisation, revenue-sharing, co-management and other variants summarised in Chapter Three. While all of these may have their place in certain contexts and situations they are not the devolution of ownership, which is at the heart of CBNRM. Genuine devolution involves a real transfer of rights and responsibilities, which the state is reluctant to contemplate. As Ake (2000:190) puts it, "Those who have the power to effect the changes...have a strong interest in resisting these changes and those who have an objective interest in the changes do not have the power resources to effect them. Power and desirable change are pulling in diametrically opposite directions."

This impasse is thus one of the greatest challenges facing CBNRM. It has been the subject of considerable literature, some of which sees it as an intractable problem and thus to be avoided by seeking solutions which are less robust than devolution. Other literature advocates non-confrontational and evolutionary approaches: the use of policy spaces to create *de facto* devolution; the use of other legislation (e.g. trusts) to provide communal regimes with the independence they need; or the formation of national associations to promote CBNRM. Another approach is through "recourse to the notion of domestic political will, which holds that where political will for reform exists, donors can support government to enact reforms, such as CBNRM." (F. Nelson, pers. comm.) Nelson is sceptical, quoting Chhatre (2008:21) "Political commitment from above is considered crucial for the success of decentralisation [sic] reforms, but where does this commitment come from?"

110

The authors agree with Nelson that unfocussed and poorly articulated 'political will' is unlikely to be effective. We have however recently witnessed an instance where a more confrontational and negotiatory approach has yielded results shifting this impasse. Our recent study of Masoka (Taylor and Murphree 2007) provided an instance of a community which in fact was providing over 50% of district council revenues and threatened to withdraw from CAMPFIRE unless it received a more equitable share of the revenues. The RDC had no alternative but to enter into negotiations, which resulted in the establishment of a community bank account, direct payments to the community and a five-fold increase in revenue from the previous year (US\$23 000 to US\$132 000). As a result of the success of these negotiations the direct payment method has now been adopted country-wide in Zimbabwe, although still meeting with resistance from some district level interests (CAMPFIRE Association, 2009). This is yet not complete devolution for Zimbabwe, but it is a significant step towards it and will no doubt influence the future land and resource use incentives of those communities in CAMPFIRE which are significant wildlife producers. Communities with something of value which can collectively organise to create negotiating leverage, can use their bargaining strength to create the 'political will' for reforms among higher-scale decision makers which would not be possible in the absence of such grassroots pressure.

The devolution deadlock is thus perhaps not as intractable as might have been thought. It will, however, continue to impact on CBNRM in the foreseeable future and it is not amenable to 'quick-fix' solutions. A variety of approaches will be needed to suit a variety of situations and progress to resolution is likely to be intermittent and uneven. It will be an enduring challenge to CBNRM while at the same time we see the dynamics involved as a current opportunity, particularly if we are willing to reconceptualise our views of devolution as an instrument of communal enablement.

An analysis by Anstey (2009) queries the epistemological roots that devolution is the transfer of authority, responsibility and entitlement from the centre to the periphery: "...the words decentralization and devolution inevitably act to privilege the centre as a starting point (from, down) creating a mental model around which central power and authority is the starting point of negotiation and is in control of both direction and speed of the process. In privileging the centre it reinforces a bureaucratic view of the state and a subject rather than a citizen approach to democracy. It's hard to get to the deed (effective local democracy, empowered local citizenship, self government) if the word privileges and hands out discretionary control to the centre." (Anstey, 2009:22).

All of this may seem to be nothing more than a verbal quibble. The main objective is to shift power and authority from the centre to the periphery, and the terminology used is a subsidiary issue. On reflection however, the import of this verbal issue is also for scholars and practitioners to seek a different perspective on CBNRM. When this is done, we recognise what has been advocated as 'devolution' in the robust forms of CBNRM is, in fact, restitution, i.e. restitution of land, resources and rights of governance over evolved commonages to those from whom they have been expropriated. If formal CBNRM can shift its mindset to recognise that a key role is to facilitate long-established CBNRM regimes to achieve such restitution, a major change in its profile and direction will be effected. The starting point for negotiation is no longer the state but rather the communal, which sets the direction and pace of the enablements involved (Anstey, 2009).

Privileging the local is not however the only change that this challenge and opportunity suggests. Communal regimes in state lands are heterogeneous entities in heterogeneous contexts. Cohesion and legitimation must not be assumed. Some have been eroded by state policies of privatisation (e.g. Kenya) or their commonages reduced by enclosures (cf. Woodhouse *et al.*, 2000) to the point where their continued existence is questionable. The legitimacy of others has been lost through poor leadership, normative breakdown or population movements. Other, non-collective forms of land and resource management may now be appropriate following ecological, technical or economic changes. A vast task for planners and coordinators at the centre is to integrate these factors if a rational and productive agrarian reformation of state-owned communal lands is to take place. Nevertheless, for the foreseeable future much of the landscape on these state lands will continue to be occupied by people living under communal arrangements.

It is here that formal CBNRM can play a useful part if it is willing to loosen its links with the centre, accept the perspective described above and align itself more closely with the aspirations of communal people for a restitution of their rights and the authority to manage their common resources. This management must flow from their own collective institutions and follow their own social visions if it is to be effective; if its content and structures are imposed it will fail; the local and communal must therefore become privileged. The local must evaluate its own future, determine its own plans and assume the responsibility for implementation that this authority implies. Technological changes, new modes of collaboration and the penetration of national and global markets and environmental challenges, notably climate change, will call for new local skills. Formal CBNRM initiatives can play a role here, whereby communities can be introduced to such changes, allowing for testing, adaptation and incorporation. They can also provide linkages between the enabled community and the centre. The centre, with its access to technological and organisational knowledge, will have enormous extension responsibilities requested of it from communal regimes. It should be prepared to respond to these, but in a facilitative rather than a directive way, as elaborated further in this chapter. Thus, if privileging the local is to be part of CBNRM's contemporary epistemological shift, reforming the centre must be another aspect of that shift.

Fiscal, ecological and institutional sustainability

Given a collective governance of the commons, with various and varying inputs of traditional and modern CBNRM, and a strong alignment with the aspirations of communities for a restitution of their rights and the authority to manage their common resources, then issues of sustainability become more readily dealt with, and less problematic.

A more holistic and integrated community-driven approach allows both market-based commoditisation opportunities such as wildlife tourism to be exploited as well as sustaining economically important traditional agropastoralism. It also allows communities to make choices without over-reliance on one commodity, e.g. wildlife tourism and/or hunting which may be prone to declining visitor arrivals on account of either internal (political elections) or external conflicts (global terrorism). As already recognised above, competing interests over land including conversion for different uses (jatropha production in Ethiopia, Dilys Roe, pers. comm., sugar in Mozambique, JL Anderson pers. comm., wheat in Kenya Masailands, Norton-Griffiths, 2007) can and will lead to different and perhaps inappropriate tenure systems (share-cropping, tenant farming, privatisation and individual ownership). Such conversions are also aggravated, for example, by the persistence of Kenya's policy ban on trophy hunting and other forms of consumptive wildlife use which greatly diminishes the potential economic returns for communities and creates disincentives for conservation by reducing wildlife's local economic value (Norton-Griffiths, 2007), apart from existing tourism gate revenues failing to reach communities. Thus communities need to be at the centre of these decisions and changes, not at the periphery.

In Southern African CBNRM, much credence is given to allocating land to its highest-valued use. But the highest valued use has been interpreted largely in economic and financial terms, using a market based approach. The danger in this argument is that it is largely a short term perspective, almost to the extent typical of economic 'booms and busts', with little consideration of long term economic or financial or indeed environmental sustainability. The real value of maintaining and using wildlife, wild lands and other natural resources is that these uses also help to avoid option foreclosure and mitigate the likely impacts of climate change, predicted to be severe in many parts of Africa (IPCC, 2007). So how is that highest valued use arrived at from a community perspective? It may range from direct use value, e.g. tourism, to non-use existence value, e.g. traditional or cultural heritage (Barbier 1992). Tenure and rights to choice are extremely important here, as is the knowledge and information that informs that decision, but it should not be assumed this will lead to a 'conservation' outcome *per se*. It may, for example, lead to a small-scale irrigation scheme, if this is the highest valued use of the land. However, underlying such choice should be some measure for institutional, economic and ecological sustainability.

The question of the private sector involvement in CBNRM is debatable. Private sector partners can be extremely important, provided the relationship is one reflective of a 'proprietor-client' relationship. This is crucially important for markets, income generation and fostering both commercial enterprise development and environmental stewardship.

A number of analyses of private sector involvement in CBNRM (Child and Weaver, 2006; Murphree, 2001; Taylor and Murphree, 2007), outline the multiple benefits of entrepreneurship such as the longer term sustainability, as a means of empowering communities to select, negotiate and contract private sector partners as well as enterprise development. The commitment of private sector partners to community aspirations is crucial and partners have to be chosen carefully, but this too, is part and parcel of experiential learning by communities. Such partnerships also provide important entry points for eventual community self-managed small tourism enterprises (Davidson *et al.*, 2006). Creating sustainability here does require a fundamental change of both approach and mindset on the part of CBNRM facilitators and practitioners, including adoption of a more business-like approach, ensuring market demand and strong sector policy support, withdrawal of direct NGO inputs, realism about capacity, separation of ownership and management, and promotion of a proprietor-client relationship.

Conservation needs also to be more widely interpreted. In an agricultural context 'conservation' of soil, water and grazing is extremely important from the perspective of land degradation in southern Africa, and desertification in the Sahelian regions of West Africa where transhumance is an important livelihood and coping strategy. The spatial and temporal distribution of key resources require careful collective management (Scoones, 1989), but for many common property regimes, such management has been eroded away. It is here though

where informal CBNRM has played an important role in the past under traditional authority and needs to be resuscitated in emerging modern economies but through integration rather than abandonment of previously good practices. In the context of CBNRM, security of tenure over land and resources (Rukuni 2009), and the ability for a community to do what it chooses and not have that choice readily taken away or removed, implies assumptions about the nature of the political regime under which such decisions are made or allowed.

In the context of CBNRM not all traditional authorities necessarily have legitimacy. Some do, some do not. Modes of legitimacy are shaped in reality in the different contexts of time and place which CBNRM throws up, and the judgement should be one which people make on the basis of their experience and their estimate of who can best represent their collective interests. In this judgement, communities may be looking not simply at individuals but for a corporate profile of leadership which can deliver effectiveness in management and in guarding collective interest against sectional greed, both internal and external.

In certain cases, such as that of a re-settlement area in the Eastern Highlands of Zimbabwe, a residency-based constituency is preferred¹⁶. People here opt for a project leadership which is legitimated by resident approval rather than one which derives from the customary structures of headmen and chiefs, although the debate is by no means over. Moore puts it this way: "Contending visions of resource rights continue to pit populist visions of localized environmental entitlements against 'traditional' and ethnically-coded ancestral claims to the landscapes" (Moore 1998:34). At Masoka in the Zambezi Valley however, we see a different pattern of preference evolve (Taylor and Murphree, 2007). Leadership of CAMPFIRE in Masoka commenced under the aegis of 'traditional' authority and then swung to a Wildlife Committee in which younger and more educated members predominated. Over time the actions of both 'authorities' in the eyes of the community were seen as 'good' and 'bad'. Subsequently a pattern of 'balance' emerged, with youth and experience, education and wisdom, becoming combined.

A major deficiency of formal CBNRM projects is the absence or paucity of quantitative and/or qualitative data on their social, economic and environmental impacts. There is real need for good monitoring protocols to be in place and measurements against baselines established at the outset of the project or programme. Contributions to conservation of biodiversity and environmental protection are not easy to measure and impact assessments, including attributions of causality, are methodologically difficult.

Part of the problem lies with poor or incomplete design and a lack of understanding by project implementers of what it is that really should be measured. Most projects are good at reporting on activities and to an extent the project deliverables, i.e. the outputs or results the project itself is responsible for. Lacking are the outcomes, i.e. what the community might be doing with the

16. For a more detailed account of commons governance, see Ribot (2006)

project deliverables, i.e. their use and application, such as a land use plan, and it is this which should provide the measure of impact, i.e. the effect of the project after it has gone. Most projects have a set of outputs leading to achievement of the immediate goal or project purpose but thereafter focus is lost on the sum of the outcomes leading to impact and the long term project goal or development objective. This arises out of incorrect and inflexible adherence to and application of project 'log frames' by both project implementers and donors. Log frames should be used as a tool which can be changed and used adaptively as circumstances dictate. There is also failure to recognise the long term, process oriented nature of CBNRM projects with too much emphasis on the achievement of short-term results in the life of the typical project cycle.

Part of the solution lies with community engagement in monitoring project successes (and failures). Imparting skills and knowledge in establishing baselines and subsequent monitoring is empowering for communities and instructive for project implementers. Examples include the Management Oriented Monitoring System – MOMS (Stuart-Hill *et al.*, 2006) and participatory mapping (Tagg and Taylor, 2006) developed for the Namibian Conservancies and Participatory Quota Setting amongst CAMPFIRE communities in Zimbabwe (Taylor, 2001; Rigava *et al.*, 2006). Properly designed and structured projects will provide for quantitative and qualitative self-assessments of project impacts by communities themselves long after the project has departed. But social, economic and environmental benefits are unlikely without community empowerment and appropriate governance structures for environmental stewardship which such monitoring requires.

115

CBNRM and Transfrontier Conservation Areas (TFCAs)

Support for regional approaches to ecosystem management which crosses national boundaries is evident throughout the areas covered by this survey. Four examples from Central Africa are mentioned on p. 25 and examples are also to be found in Eastern Africa and West Africa, including Parc W, possibly the oldest trans-national conservation area in Africa. For southern Africa "...at least 13 potential and existing terrestrial transfrontier parks and transfrontier conservation areas – also known as transboundary conservation areas – have been identified in the Southern African Development Community (SADC) region. These areas include many national parks, neighbouring game reserves, hunting areas and conservancies, mostly occurring within a matrix of land under traditional communal tenure. Altogether the existing and proposed transfrontier parks and TFCAs cover more than 1,200,000 square kilometres (460,000 square miles)." (AHEAD, 2008:1).

A good example is the Great Limpopo Transfrontier Conservation Area (GLTFCA) which covers an area of approximately 100,000 square kilometres of land on both sides of the Limpopo in South Africa, Zimbabwe and Mozambique. The conservation core of this scheme is the Great Limpopo Transfrontier Park, signed into existence in 2002 by the three governments concerned and consisting of the Kruger, Gonarezhou and Limpopo National Parks. These three parks exist within the larger matrix of the GLTFCA, inhabited by more than 500,000 people living

in communal tenure conditions “where the dominant land use is subsistence agropastoralism that is heavily subsidized by off-farm income and food aid”. (Cumming *et al.*, 2007:3) The GLTFCA has been severely criticised for paying only scant lip service to these residents in the interests of large scale ecotourism backed by environmentalists and large scale entrepreneurs. It is true that only token consultations with local people took place before the project commenced and one could see the GLTFCA as yet one more instance of a land grab by professional conservationists and tourism capital.

Looking however at the record since 2002 one can note that little has been accomplished in the GLTFCA aside from sites controlled directly by national park authorities, i.e. the dropping of sections of the LNP/KNP fence and subsequent wildlife translocations. There is now an awareness that the GLTFCA will only succeed if it addresses the interests of the people living within it. An unanticipated spin-off of the inauguration of the project was the formation of a coalition of veterinarians in 2003 (AHEAD: Animal Health for the Environment and Development) concerned that wildlife corridors designed to connect protected areas could also serve as biological bridges for vectors and the pathogens they carry. This coalition rapidly changed to include human health and development in its concerns and incorporated a large number of social, ecological, economic and human health professionals in its research programme. Its annual meeting has now become a forum for the multidisciplinary examination of the GLTFCA. Aside from this benefit the project can be said to have a) raised the awareness at bureaucratic levels of the need to incorporate local perspectives in planning processes; b) enhanced CBNRM perspectives and approaches at local levels and c) pushed localities and state agencies into more proactive scenario planning modes when faced with the need to reach consensus on specific issues (e.g. the siting of a proposed new bridge across the Limpopo river). In this manner a large-scale transboundary project which might be considered inimical to CBNRM approaches can become an arena in which local CBNRM regimes are strengthened and cross-scale linkages are enhanced (Murphree, MJ *et al.*, 2008).

This scaling up becomes all the more important when climate change predictions for Africa are taken into account (IPCC, 2007). CBNRM is one of the few realistic opportunities for ensuring adaptation and mitigating strategies for a warmer and drier continent. We already have examples of traditional coping strategies for dealing with the vagaries of the environment, especially amongst pastoralists in west and eastern Africa, and more recently a growing understanding of livelihood vulnerability amongst ago-pastoralists in the Limpopo basin (Gibson, 2007). Here communities are relying increasingly on markets for natural resource products in the face of climatic perturbations. Combinations of traditional resource use patterns and scenario planning amongst communities in relation to ecological scale and functioning will make far more useful contributions to real implementation of MEAs than the continuing proliferation of technocratic workshops and the development of a myriad top-down action plans.

Changing modes of facilitation and donor support

A final challenge facing contemporary formal CBNRM is a re-orientation in the way that natural resource governance regimes are promoted and supported by the development and extension community. If privileging the local rather than the centre requires an epistemological mind-shift, implementing this kind of reorientation also requires a change in the roles and self-images of those who implement the shift. This applies both to those who constitute the external facilitators and those who are the central actors themselves, the members of the local.

The external component is comprised of an epistemic community of professional scientists, planners and bureaucrats who conventionally set the agenda, conduct the research, and analyse the results. If local 'participation' is included this remains ancillary, part of the data on which analysis draws. Privileging the local seeks to turn this relationship between professional 'externals' and local 'internals' on its head. Responsibility for initiation and implementation must stem from and is the responsibility of the local; professional involvement becomes invited rather than imposed, directed rather than directive, facilitative rather than manipulative. It should represent professional science and technology in the service of local civil science. To quote Emery Roe: "The obvious challenge is to come up with varieties of inside-out planning for ecosystem management, where local leaders and residents are themselves the experts and where the planning process is itself initiated and guided from within the local ecosystem" (Roe, 1998:138).

117

This is easy to say but difficult to put into practice. It can however be done provided that there is local social capital on which to build, 'light touch' insightful facilitation, and time sufficient for this relationship to grow at its own organic pace. Take, for example, the first stage involving invitation rather than imposition. It is no accident that the two cases of what are arguably the most successful communities in CAMPFIRE (Masoka and Mahenye) were both started on a formal CBNRM course only after lengthy debates and negotiation of over two years in each instance led to voluntary entries into the programme. This was at a time in the late 1980s when the Programme was still embryonic and had not as yet been formalised into a system dominated by district councils which coerced constituent communities into membership (Murombedzi, 1992; Peterson, 1991). Another example is provided by Namibia, generally considered to have the most successful CBNRM programme in Southern Africa. This programme, designed to provide to communities the same rights of use and benefit from wildlife as commercial farmers and to gain rights over tourism concessions, was provided with the enabling legislation in the Nature Conservation Amendment Act of 1996 through provision for the formation of a collective management institution called a 'conservancy'. It was not however until 1998 that the first conservancy had in fact been registered. Unlike other countries in the region Namibia insisted that these CBNRM regimes should only come into existence through local voluntary initiation and that they subsequently only be registered after having met the following criteria:

- Having a defined membership and a committee representative of members
- Clearly defined boundaries that are not in dispute with their neighbours
- Having a clear plan for the equitable distribution of conservancy benefits to neighbours

Given the difficulties of working through these details by people whose residential patterns are generally dispersed the time elapsed between the legislation and the first conservancy registration is not surprising. However the momentum for registration developed with the success of these initial experiments and by 2007, 50 conservancies had been registered across the Country (cf. Jones, 2001: 55-56; NACSO, 2008:10-13).

Starting a formal CBNRM intervention (or grafting it onto an evolved one) by establishing at the outset that this is at the request of the local is thus critical. This has a powerful influence on the sense of ownership and involvement by the local. This cannot be cosmetic only; it must be followed up by local agenda-setting if this sense of ownership is to be maintained. This agenda setting is a further critical process in local governance building since good planning must involve consideration of the future, of alternative choices and relationships within wider spheres of governance. It must also consider the costs and implementational responsibilities involved. An increasingly widely used approach to local agenda setting is an adaptation of scenario planning, first developed for macro analytic strategic and economic planning as an alternative to mathematical simulation modeling because of its own predictive limitations. This has led to a greater emphasis on qualitative, non-predictive scenario exploration, often in the mode of examining sets of plausible alternative scenarios. This shift has been accompanied by greater attention to cultural and institutional variables, “internalizing human choice into sustainability science” (Swart *et al.*, 2004:137).

118

Communal planning and implementation also require evaluation and adaptation. The authority to plan and responsibility to implement are among the most valuable aspects of communal enablement. When linked to evaluation and adaptation they become experimentation and civil science is given a chance to grow. Evaluation must however primarily be self-evaluation by the community if this is to happen. Taken together the implementational challenge to contemporary CBNRM is to ensure that the participation of communities is voluntary, and that the planning, implementation, evaluation and adaptation of the process reflect a sense of localised authority and responsibility. This stands in contrast to the ‘project’ mode which characterises so much of what is termed CBNRM today, where the objectives are set by the bureaucracy or a donor, where ‘participation’ is coerced or cajoled, the content is predetermined and evaluation of action and results is ‘upward’ to a bureaucratic hierarchy or donor. Where such a model is imposed local ‘participation’ usually turns out to be a manipulative response to access funding rather than collaboration in a larger enterprise enhancing local development efforts. This syndrome has led to failure in a vast number of conservation and development projects. With a perversity that is astonishing CBNRM ‘projects’ continue to be

in this mould. With a shift away from privileging the centre and a methodological approach which lays emphasis on local authority, responsibility and experimentation, contemporary CBNRM is presented with one of its greatest opportunities.

The community-centric approach that we have outlined above does have the potential for disjunction between local and larger bureaucratic contexts in two dimensions:

- Local agendas and performance criteria may well present a different profile to those set by some larger planning horizon, which will understandably wish to have its concerns addressed.
- Local scenario planning may well be excessively parochial, concentrating on the 'local' ecosystem and ignoring the cross-scale linkages to larger bio-social systems.

These potential disjunctions represent challenges and opportunities afforded by the methodology. We highlight the following:

- Differences between local and larger scale agendas and criteria are themselves important data which should inform the evolution of planning at all levels. In revealing these differences the methodology can constitute an adaptive mechanism.
- Experience suggests that technical inputs are more likely to be accepted when they are seen as invited contributions to local planning rather than external impositions. Provided that 'ownership' of the process is perceived to be local, technical inputs are welcomed. Participatory quota-setting methodologies and management oriented monitoring systems (MOMS) supporting communal and now park wildlife management in southern Africa are good examples. Implemented properly, the CBNRM methodology outlined here should have little difficulty in accommodating sound technical advice.
- The key to this conjunction of the local and the professional is effective, 'light touch' facilitation in the planning and evaluation exercises, which introduces technical perspectives without violating local senses of ownership. This requires a breed of scholar-practitioner who is versatile and more interested in knowledge production through an experimental interdependent science than the purely abstracted results of armchair arrogance.

The question has been asked, "Can a project for conservation, externally defined and executed in a project mode, be married to a communal approach?" (Murphree, 2004:204). If the mental map and methodology advocated in this section are right, the answer is 'No!' Formal CBNRM approaches, which have been surveyed in this volume, have largely been grounded in the international project mode, which is generally short-term, time-bound and reductionist, assuming that the end can be defined and provided for at the beginning. A different stance has been advocated in this section, one which starts with the perspectives and concerns of the local. The reformulated CBNRM that is put forward starts from local collective and common

interests, which are likely to contain a variety of agrarian interests. Unless these interests are prioritised and carried forward by a vehicle of internally legitimate local governance no CBNRM 'project' will succeed. And if management of the commons at local levels fails management of the commons at other levels – regional, national and global – will also fail¹⁷.

If the local is therefore so fundamental and the 'project' mode has such a depressing record of failure, why do donors persist in replicating these failures? The answer largely lies in the fact that the alternative mode of intervention proposed here is not particularly donor-friendly. As Nelson comments, "We have to recognize the way that donors tend to support CBNRM, which is primarily through large-scale, highly centralized projects negotiated between central government agencies and the donors, sometimes with a third-party NGO (usually a large international NGO) serving as the implementing go-between. Suffice to say there is an inherent problem with routing support for CBNRM through the hands of those actors most likely to resist reform (central governments) rather than through those most likely to demand and benefit from it (communities and allied civic organizations)." (Nelson, pers. comm.; see Nelson and Agrawal, 2008).

This said, we note also in certain cases such as Namibia, a donor/government profile very similar to that described by Nelson, has led for over 20 years, a community-driven CBNRM national programme which to a large extent parallels that advocated here. Factors involved in Namibia included a well developed national policy maintained by a determined professional bureaucracy and a range of different donor options. We should note also that much donor-sourced CBNRM funding may not be critical. What is critical is the creation of a strong cadre of skilled facilitators, high-quality research and analysis to back up the implementation-evaluation-adaptation cycles. The incentive systems in the universities and training institutes which produce aid establishment personnel could well be altered to give more weight to participatory scholarship and publication (cf. Fortmann, 2008).

It would also be useful if donors ceased to pigeon-hole CBNRM as a programme directed at environmental issues. It is as much a programme of local governance. At one time environmentalists supported CBNRM as a useful adjunct to environmental stewardship. Now it is time to recognize that the governance of the commons is a critical proving ground for the experiments that need to be made to bring about the agrarian changes that rural sub-Saharan Africa desperately needs. CBNRM remains the most, if not the only viable entry point for dealing with land and natural resource issues and the uncertain future these face. There is no other realistic alternative.

17. Berkes reminds us that we are dealing with a multi-level commons problem involving commonages at various scales. "...the challenge is to build a fully communicative deliberative, multi-level system that deals with tradeoffs between social and ecological objectives in an optimal fashion without being skewed by disciplinary biases or the political economy of power relations..." (Berkes 2007:15191). We agree that CBNRM is no panacea and must be integrated with other levels. The problem is so often that while the local is rhetorically acknowledged as part of this multi-level system, it is in practice marginalised and the global edifice is built without the proper foundation.

Where next? A policy road map for CBNRM across Africa

The sub-Saharan context

To understand the achievements and performance of CBNRM across sub-Saharan Africa, it is important to briefly reflect on the wider geo-political context in which it is being implemented. Many of the poorest countries in the world are in the region. Up until recently, the economies of many countries in sub-Saharan Africa had either not grown or had shrunk (Collier, 2008). This trend may have ended however and there are several economies in the region that are showing good macro-economic growth, although this is not necessarily shared evenly across society (World Bank, 2008a). In addition, many countries on the continent have been directly or indirectly affected by conflict and severe governance challenges (Collier, 2008). It is not a coincidence therefore that one of the biggest and most successful contemporary CBNRM programmes in sub-Saharan Africa is being implemented in Namibia, a country which is characterised as having many elements of good governance (as well as relative abundance of wild land). Accountable and decentralized governance is generally conducive to more effective CBNRM processes.

121

Key findings of the review

This review considers the impact of CBNRM in sub-Saharan Africa under three categories, namely the empowerment of rural communities, its economic impact and the effect on the environment. All assessments, both of traditional and contemporary CBNRM processes, are limited by the paucity of data. In particular, robust ecological assessments of CBNRM initiatives are extremely limited. Consequently, analyses and reviews have to rely on case-study analyses and anecdotal information that cannot be easily extrapolated.

The review affirms the position that the empowerment of previously alienated individuals and communities is possibly the most important and substantial impact of many of the contemporary CBNRM initiatives to date. The review notes that:

- the transfer of authority from central government to a diverse range of co-management arrangements has had both successes and has faced many challenges.
- developing strong and resilient community organisations for the management of land and natural resources will take generations to accomplish.
- the challenges to successful devolution include elite capture of opportunities and benefits, corruption and mismanagement. In some cases these problems

have been used by central governments as a reason to abort devolution and reclaim rights over land and resource management.

Many contemporary CBNRM initiatives are actually examples of co-management in which the stakeholders derive different benefits and bear different and often unequal costs. Additional complexity is created by the different types of benefits that are derived from both traditional and contemporary CBNRM processes. This review shows that:

- from an individual household livelihood perspective it is now accepted that contemporary CBNRM initiatives can provide limited and supplementary sources of income. There are a few, often well documented, exceptions, where the benefits per household can be very high.
- In many areas, local livelihoods continue to rely extensively on communal natural resource management regimes, for example pastoralists in East Africa and many forest-resident communities.
- the cost of developing CBNRM programmes has been significant and has in many cases been subsidized by international donors.
- in contrast, existing examples of traditional CBNRM that are found in many places in sub-Saharan Africa have evolved with low costs institutions and organisations for land and resource management.

122

The absence of quantified data is particularly acute in terms of the impact of CBNRM on land and natural resource management, forcing broad reviews to rely on proxy indicators, perceptions and anecdotes. The review shows that:

- there are several contemporary CBNRM programmes that are beginning to result in improved management of land and resources over substantial geographic scales such as Namibia (largely wildlife) and PFM in Tanzania.
- there is evidence that management by communities on land outside of protected areas might be better than in adjacent state protected areas.
- there is evidence of improved wildlife numbers in specific locations that can be attributed to contemporary CBNRM processes, but that conflicts between people and wildlife have not been adequately resolved.

Irrespective of these impacts, the rates of deforestation, woodland degradation and changes to savannahs across Africa are significant although extremely variable. It is therefore fair to argue that success stories are generally taking place within a larger context of major and often irreversible land use change. The impact, scale and severity of these changes is however often extremely contentious.

Broadening CBNRM

This review shows clearly that CBNRM across the continent has developed following different rationales and pathways depending on local contexts and is therefore understood and defined differently between and within regions as well as by aid agencies, donors, practitioners and scholars. For many of these actors, CBNRM has been bound too narrowly, with a focus on “conservation” and a rather simplistic and generic understanding of integrated conservation and development programmes and projects (ICDPs).

It is insufficient to just accept that “conservation and development go together”. Conservation needs to be addressed in the context of agrarian reform and should not be viewed simply as an issue for conservation agencies alone. Conservation efforts in rural Africa require a much deeper appreciation of the importance of conservation to people’s livelihoods, and the types of devolved institutions such as collective property rights that provide the foundation of local investments in conservation. Looking forward, it is important to deepen our understanding of CBNRM as a broad church that embraces wildlife conservation and protected area management, together with the broader land management and resource use issues related to agriculture, forestry and pastoralism. CBNRM is a response to how best to harness local resource exploitation to privilege local economic and social development. Indeed it is part of a much needed agrarian revolution without which sub-Saharan Africa will not achieve broad-based growth and prosperity.

123

Empowering local communities

Much, if perhaps not most of CBNRM occurring in Africa is not ‘new’ but rather based on extant customary rules and governance institutions, including local norms, cultures and beliefs. Such locally adaptive systems should be supported by formalizing them within the legal constructs of the State, when this will serve to support local rights over land and natural resources. Many communities with traditional CBNRM regimes, such as pastoralists in eastern Africa, need assistance to adapt to increasing pressures from global political and economic forces with interests in expropriating local lands and resources, and defend their claims through a range of formal and informal means. Formalizing customary systems of land and resource management by legally documenting and securing land rights over a defined area can be a key to CBNRM, and to safeguarding the livelihoods of millions of rural people in African countries.

CBNRM is at root a local governance reform process, and is best formally and strategically treated this way. CBNRM, like local governance reforms, should be addressed as a ‘cross-cutting’ issue, given the way that resource governance, local government reform, and land tenure issues all interact and reinforce one another, within the context of macro-political processes.

Achieving significant reform is a challenge when there are strong disincentives for central agencies to devolve control over resources or democratize land and

resource governance. As Chapter 6 and elsewhere in the review points out, CBNRM often has effectively relied on central bureaucrats to act against their own personal and institutional interests. Thus relying on 'political will' from the centre is likely to be productive only where such decentralising trends are already strong.

CBNRM efforts need therefore to fundamentally shift towards a demand-driven, decentralised model of reform that builds the capacity of citizens and civic coalitions to assemble and use the political capital that is required to change governance institutions in democratic ways. This is how 'political will' for reform comes about: through the development of accountability between rulers and the ruled.

Distributing costs and benefits of resource use

Incentives play a critical role in many of the CBNRM programmes examined as part of this review. Common property theory places these incentives in context arguing that institutional change for the management of land and natural resources will only be achieved if the net benefits of the new management system substantially outweigh the net benefits of how resources were managed (or not managed) previously (Ostrom, 1990).

124

Although seemingly simplistic in its formulation, this condition serves to remind us that institutional change is not costless. Further, where co-management arrangements are being discussed the distribution of benefits and costs between the stakeholders has a strong bearing on their behaviour within the arrangement. Governments, and in particular central treasuries, have been very reluctant to relinquish control over valuable natural resources, such as wildlife and timber, because of the negative financial implications of these decisions. The decision by the Government of Botswana to increase the proportion of tourism and hunting revenue that it manages on behalf of communities can be construed as an effort by central government to recover greater control over wildlife-based finances. Similarly, where units of local government have benefited from devolutionary policies, they too have often been reluctant to fully reward the land managers for responsible management and custodianship over natural resources (see Bond, 2001).

PES initiatives are emerging as a way of financing natural resource management and conservation where there are persistent market failures (Wunder et al, 2008). In most of Africa, PES initiatives are addressing the same basic challenge as CBNRM- namely, the collective or collaborative management of land and natural resources. Most, if not all proposals for REDD are based on payments from rich industrialised countries to countries where deforestation is a major cause of greenhouse gas emissions. There is a strong probability that countries in Africa with tropical forests and woodlands will benefit from both grant-supported REDD activities and in the longer term, direct links with carbon markets. Existing CBNRM programmes and architecture provides two opportunities for REDD. The first is that existing organisations provide short and medium term opportunities for bundling carbon payments with existing benefit streams from wildlife and/or timber.

The second opportunity is that the development and implementation of REDD programmes needs to draw on the extensive lessons learned from CBNRM with regards to institutional design, local economic incentives and resource governance.

Knowledge and learning

CBNRM has witnessed the growth of inter-disciplinary science, notably between social and ecological science, but gaps remain. The research base needs to broaden to encompass broader issues of agrarian reform, economics, democratisation, commoditisation, sustainable use and climate change, together with associated MEAs (UNCCD, UNFCCC, CITES, CBD) in the context of CBNRM.

This review arose from a Pan African Conference held in 2008 in West Africa which revealed not only differences but generic similarities in CBNRM across the continent. The exchanges contributed significantly to the evolution of this review. Thus continued interchange of experience and scholarship between West, Central, East and Southern Africa will cumulatively be very constructive.

Our evolving understanding of CBNRM has been highly dependent on field practitioners and facilitators informing scholarship and vice-versa. This relationship must continue, but equally it must also change. As Chapter 6 points out, if we are to privilege the local, "...then professional involvement becomes invited rather than imposed, directed rather than directive, facilitative rather than manipulative. It should represent professional science and technology in the service of local civil science." Looking forward, international and national policies should be informed by improved evidence-based reviews of development outcomes that support national and regional learning processes and give voice to local experiences. One such example is the Regional CBNRM Forum in southern Africa. It has a number of working groups, including one on governance. The Forum itself is made up of individual country associations.

125

Roles of key actors

The previous sections of this chapter remind us of the wider context in which CBNRM processes are being implemented and supported; highlight the key findings of the evidence reviewed by this report and consider the major issues, such as climate change in the future. This section provides recommendations for future action, broken down by major stakeholder groups. In compiling these recommendations we recognise two important issues:

1. Breaking down the recommendations by stakeholder may be somewhat artificial as CBNRM processes are by their very nature multi-disciplinary and involve coordinated and mutually respected action by all the stakeholders.
2. We have assumed that communities of land and natural resource managers are the intended beneficiaries of these proposals. Our review notes that CBNRM processes around sub Saharan Africa are heterogeneous, and there

are risks in over-simplifying and suggesting that collective management by communities be seen as a universal panacea to all land and natural resource management problems.

Multi-national and bi-lateral donors: CBNRM has received often large scale support from multi-lateral and bi-lateral donors, both nationally and regionally, over the last two decades. This review has shown that CBNRM can indeed provide benefits to local communities in their path to improved economic development and is therefore one tool in the armory of rural development programmes.

In future, donor support of CBNRM processes should focus on building public accountability and local political capital at the level of the resource manager. To be successful, this support will often need to be small-scale, and long-term, with high investments in learning and skills development in recognition of the complexity of the problem of promoting empowerment within existing political systems. This suggests that the standard donor model of centralised support will need to be changed over time to one in which there is greater flexibility, opportunities for innovation and emphasis on the goals of local resource managers. This model does not exclude higher levels of national or regional government, but places the focus on local managers and civil society organisations. Where they are proposed, very large scale opportunities such as trans-frontier conservation will need to be carefully assessed to ensure that they are providing people-centered interventions that do not systematically privilege the center over communities.

126

The mode, as well as the scale and timing, of donor support are important. Support should not be intrusive but rather responsive to local need. Facilitation techniques such as scenario planning, the promotion of shared learning and technical workshops are critical aid components and deserve strong financial backing. So too are processes that develop new tools and management approaches for use by community-based organisations. The support of learning groups at local and national levels that are able to set their own agendas and have the flexibility to respond to current priorities are another approach that is proving effective in addressing complex governance challenges (Blomley, 2009). Direct financial backing to local groups should be approached with caution, but can be effective as an interim financing measure before the sustained flow of locally generated benefits. As shown by this review, there is still a dearth of relevant monitoring and evaluation data from many CBNRM programmes. This is an issue that future CBNRM funding must address.

The critical questions of how donors should support CBNRM processes, the scale of funding and the activities that might be supported is currently extremely relevant. Climate change will have huge impact on sub-Saharan Africa (IPCC, 2007). Donors will be funding climate adaptation processes at local, national and regional levels. For example, the eight countries that form the Congo Basin will be major beneficiaries of financial flows from REDD, and thus developing locally-

based forest conservation incentives and institutions will inevitably become a local, national, and global priority in such regions. The opportunities to learn from and link with existing CBNRM processes should be maximized if such efforts are to achieve their aims. Further opportunities may arise from direct links with carbon markets but these are only likely to develop in 5 – 10 years. Donors can assist in ensuring effective exchange of experience between the wildlife conservation and community forestry communities and in supporting the harmonization of sectoral policy frameworks towards a common approach.

Civil society: In the context of CBNRM there are a wide range of civil society organisations, from community-based organisations, through to small local NGOs and large multi-national (or big) conservation and development NGOs – or BINGOs. Civil society organisations have a difficult balancing act to fulfill. They ultimately need to be recognized by national governments as legitimate and by communities as supportive in their development ambitions. Such balancing acts are filled with tension in the context of sub-Saharan Africa's highly contested terrain of contested rights to land, resources, and citizenship. Civil society organizations, and their various local, national, and global supporters and constituents, need to acknowledge the inevitable conflicts that will arise over efforts to democratize resource governance regimes; conflict is an inherent part of institutional change, and should be strategically embraced and anticipated, rather than avoided.

CBNRM has often been advocated and implemented by international and national NGOs that see their primary vocation as wildlife conservation rather than economic development. A real danger of the BINGOs is that these organisations are seldom accountable to local African constituencies, and are often much more reliant on and tied to national-level governance institutions. As a result, the interests of BINGOs and those of local communities can quickly diverge. Even more so than local NGOs, international NGOs face a highly tenuous complex balancing act between soliciting government legitimacy and supporting community rights that has proven very difficult to achieve. However, BINGOs have a real role in promoting the skills, management experience, and convening power, of local NGOs and being a conduit or coordinator for financial support. At the community level they can assist with promoting accountable local structures for transparent financial management, the sharing of benefits and technological innovation. Wherever possible they should avoid becoming a local, “hands-on” implementing agency but rather support grassroots capacity.

In an ideal world, the facilitation of CBNRM should be the preserve of local NGOs as they are grounded in the social, economic and ecological reality of their environments. However, their roles are often limited by their size and difficulty in retaining skilled staff. Notwithstanding these challenges, we see national and local NGOs as having the key role in the facilitation of CBNRM in the future because they are more accountable to their constituents and should be much more cost effective than either government agencies or BINGOs. The participation of local NGOs in national learning groups (learning fora) should be promoted

while also supporting communities in pursuit of their rights and promote transparent governance within their communities and local government. The role of local NGOs in building networks of political capital and constituency demand for resource governance reforms is fundamental to the future of CBNRM in sub-Saharan Africa, and needs to be placed front and centre in strategies to support CBNRM across all contexts.

African Governments: With a few notable exceptions, governments in sub-Saharan Africa have often failed to fully restore rights and access to land and natural resources that were appropriated by colonial powers (see Chapter 6). Consequently, central government agencies still control access to land and natural resources, have the power to impede local adaptive measures and tend to revert to outdated technocratic solutions for resource management problems (for example pastoralist/farmer conflicts during transhumance).

The political economy of CBNRM needs to be better documented. For example stronger analysis of the flow of rents and benefits from natural resource exploitation, and how the revenues can be equitably shared between government, local authorities and villagers will help guide policy development. However, documenting the distribution of incentives among stakeholder and within communities in relation to resource use and access is often difficult and politically sensitive due to prevalent informal/illegal patterns of use.¹⁸

128

A policy road map or a set of recommendations for sub-Saharan African Governments needs to recognise that many of the functions expected from African governments are constrained by existing patterns of patrimonial governance and weaknesses in government capacity and the rule of law. Within this context we recommend that governments need to:

Implement existing laws and policies: too often even existing legal and policy frameworks, as flawed as they might be, are simply ignored by government officials or in cases used by officials for their own benefit. Implementation of existing legislation would benefit many contemporary as well as traditional CBNRM processes.

Align funding with mandates: many countries across Africa have developed new legislation and policy for the management of land and natural resources, often with a strong devolutionary theme that would support CBNRM. However the shift of legal authority to local government is not accompanied by the financial and staff resources required to deliver effective implementation.

18. Importantly, there is a recent shift on the part of donors towards trying to understand these informal patterns of resource use, at least in some places. A much-cited TRAFFIC report on illegal logging in Tanzania (Milledge *et al.*, 2007) documents staggering levels of illegal use with major impacts on CBNRM and forest governance outcomes. A recent report by the World Bank on Tanzania's 'hidden economy' focuses entirely on the value of informal natural resource uses, with its focus on the lost value to the Tanzanian economy, although it largely fails to diagnose the political/institutional factors that underlie this widespread informality (see World Bank. 2008. *Putting Tanzania's hidden economy to work*. Washington, D.C.: World Bank).

Work on harmonising policy and legislation: although not unique to Africa, policy and legislation is still largely sector specific (eg wildlife conservation, forestry, water, agriculture etc). This report recognises that CBNRM supports the development of 'participatory and accountable institutions with authority over lands and resources'. Community organisations and institutions can only operate within the existing policy framework – these are seldom harmonized and often contradictory.

Finally, African governments need to recognise the importance of national and local creativity and create an enabling environment in which communities, civil society and the private sector can experiment with new models of land and natural resource management.

The private sector: This review shows that commoditisation of natural resources more generally, can both support and undermine local rights and CBNRM processes. Many of the contemporary, wildlife based CBNRM processes of southern Africa depend on private sector partners to generate market value from wildlife. Facilitators of CBNRM processes, should regard the private sector as an ally of great potential but one that should be engaged with some caution. Where a CBNRM strategy depends on the market and commoditisation of resources, then simply 'protecting' local interests is not good enough. Local interests must be privileged to acquire the skills and tools, needed to ensure sustained harvests and to protect themselves from short term exploitation.

129

CBNRM's core concern is to develop locally accountable resource governance institutions. The way that private sector ventures are structured, designed, and facilitated can in turn have a major impact on those local governance institutions. Too often, the private sector is assumed to be individuals and organisations that are different and therefore external to communities. At the moment, this may well be the *status quo* in most communities for historical reasons, but should not be regarded as an immutable principle for perpetuity. Entrepreneurs will emerge from within communities and they need to be given the same opportunities and access as other private sector partners.

Voluntary codes of conduct have been developed for many areas of human endeavour over the last fifty years. Their success builds on the fact that so many relationships cannot be regulated by law but behavior can be modified by peer pressure (Collier, 2008). Recent examples of codes are the Kimberly Process (Diamonds) and the Extractive Industries Transparency Initiative (oil and minerals). In the forestry sector the Forestry Certification Standards (FSC) stands out. Private sector enterprises working with communities in the fields of hunting, tourism and forestry should consider developing, endorsing and applying codes of conduct that facilitate, rather than constrain, long-term local rights and incentives.

Privileging the community: This review recognises the immense challenges and complexity that are required to facilitate CBNRM processes, often in remote areas with limited resources. These are challenges that require patience, insight and strong leadership. One of the major challenges is that communities are seldom, if ever, homogenous harmonious entities. They are best portrayed as 'communities of communities' where complexity and competing interests are standard and trade-offs are necessary. Thus many of the recommendations formulated for other stakeholders above apply equally to communities, albeit at a different scale.

The central thesis of these recommendations is based on the principle that **the restitution of rights over land and natural resources is necessary for effective and durable CBNRM**. This can only be achieved when the support for CBNRM starts by privileging the communities rather than strengthening organisations that maintain the status quo, or which are interested in drawing resource rights away from local communities. However, in privileging previously dispossessed and often marginalized resource managers, CBNRM facilitators cannot guarantee goals, purposes and outputs as in the conventional, largely linear and often deeply flawed approaches to development planning and environmental management. CBNRM is about enhancing local capacity to adaptive capacity and agency in shaping local communities' shared futures, including both their own collective governance institutions and their placement within larger political entities that shape local rights and authority. These local rights are inevitably contested, and will depend on the ability of local groups and their allies within civil society, higher levels of government including elected representatives, private sector joint venture partners, and foreign development partners, to collectively work together towards empowering reforms. In many respects, CBNRM efforts across Africa to date have mainly served to highlight the importance of, and the fundamental challenges to, such institutional change. Developing the collaborative strategies grounded in local interests required to attain such change is the task facing CBNRM in sub-Saharan Africa going forward in a period of increasing environmental, economic, and political change.

References

- Adams W. 2004. *Against Extinction*, Earthscan, London, UK.
- Adams W, Infield M. 2003. Who is on the gorilla's payroll? Claims on tourist revenue from a Ugandan National Park. *World Development* 31: 177-190
- Adjei-Nsiah S, Saidou A, Kossou D, Sakyi-Dawson O, Kuyper T. 2007. *Tenure security and soil fertility management: case studies in Ghana and Benin*, Wageningen University, Wageningen, the Netherlands.
- AESG. 2002. *Review of compensation schemes for agricultural and other damage caused by elephants*, Technical brief, Human-Elephant Conflict Working Group, African Elephant Specialist Group, IUCN.
- Agrawal A. 2001. Common property institutions and sustainable governance of resources. *World Development* 29: 1649-1672
- AHEAD. 2008. *As the Fences Come Down. Emerging Concerns in Transfrontier Conservation Areas*, Animal Health for the Environment and Development.
- Ake C. 1996. *Democracy and Development in Africa*, Brookings Institution.
- Ake C. 2000. *The Feasibility of Democracy in Africa*, CODESRIA.
- Akumsi A. 2003. *Community participation in wildlife management: the Mount Cameroon Experience*, XII World Forestry Congress, Quebec City.
- Alden Wily L. 2006. *Land rights reform and governance in Africa: How to make it work in the 21st century?*, United Nations Development Programme.
- Alden Wily L. 2008. Custom and commonage in Africa: rethinking the orthodoxies. *Land Use Policy* 25: 43-52
- Alden Wily L, Mbaya S. 2001. *Land, people and forests in eastern and southern Africa at the beginning of the 21st century: the impact of land relations on the role of communities in forest future*, IUCN East Africa.
- Alexander J. 2006. *The Unsettled Land: State-making and the Politics of Land in Zimbabwe 1893-2003*, James Currey.
- Alexandre P, Binet J. 1958. Le groupe dit Pahouin (Fang, Bulu, Beti). In *Monographies ethnologiques africaines de l'institut international africain*, Presse Universitaire de France; 73-76
- Alhassan O, Manuh T. 2005. *Land registration in Eastern and Western Regions, Ghana*. Research report No. 5, DFID.
- Allebone-Webb S. 2008. *Evaluating dependence on wildlife products in rural Equatorial Guinea*, PhD thesis, Imperial College London & The Institute of Zoology.
- Angelsen A, Wertz-Kanounnikoff S. 2008. What are key design issues for REDD and the criteria for assessing options? In *Moving Ahead with REDD: Issues, Options and Implications*, Angelsen A (ed.). Center for International Forestry Research (CIFOR)
- Angoue C. 1999. *Les changements sociaux dans la Réserve de Faune de la Lopé (Gabon)*, Thèse Université Libre de Bruxelles
- Anstey S. 2005. Governance, natural resources and complex adaptive systems: A CBNRM study of communities and resources in northern Mozambique. In *Confronting the crisis in community conservation: Case studies from southern Africa*, Dzingarai V, Breen C (eds.). University of KwaZulu-Natal

- Anstey S. 2009. *Institutional change and CBNRM in northern Mozambique: The village goes forward: governance and natural resources in north Niassa*. D.Phil thesis, Centre for Applied Social Sciences, University of Zimbabwe.
- Archabald K, Naughton-Treves L. 2001. Tourism revenue sharing around national parks in western Uganda: early efforts to identify and reward local communities. *Environmental Conservation* 28: 135-149
- Arntzen J, Molokomme D, Terry E, Moleele NM, Tshosha O, Mazambani D. 2003. *Final report of the review of CBNRM in Botswana*. National CBNRM forum, Gabarone.
- Arntzen J, Setlhogile T, Barnes J. 2007. *Rural Livelihoods, Poverty Reduction and Food Security in Southern Africa: Is CBNRM the Answer?* USAID, Washington, DC.
- Awimbo J, Barrow E, Karaba M. 2004. *Community-based Natural Resource Management in the IGAD Region*, IUCN-EARO & IGAD.
- Ba L. 1998. *Community based management of natural resources in the villages of the 'Siwaa' test area of the CMDT's Southern-Mali zone*, The World Bank/WBI's CBNRM Initiative.
- Baldus R, Cauldwell A. 2004. *Tourist Hunting and its Role in Development of Wildlife Management Areas in Tanzania*, Sixth International Game Ranching Symposium, Paris, July 6th-9th.
- Balint P, Bond I. Submitted. The learning curve for southern African Community – Based Natural Resource Management: From CAMPFIRE in Zimbabwe to conservancies in Namibia.
- Balint P, Mashinya J. 2006. The decline of a model community-based conservation project: Governance, capacity, and devolution in Mahenye, Zimbabwe. *Geoforum* 37: 805-815
- Bandyopadhyay S, Guzman J, Lendelvo S. 2008. *Communal conservancies and household welfare in Namibia*, World Bank.
- Bandyopadhyay S, Shyamsundar P, Wang L, Humavindu MN. 2004. *Do households gain from community-based natural resource management? An evaluation of community conservancies in Namibia*. DEA Research Discussion Paper; No. 68, Directorate of Environmental Affairs. Windhoek, Namibia.
- Barbier E. 1992. Economics for the wilds. In *Economics for the Wilds: Wildlife, Wildlands, Diversity and Development*, Swanson T, Barbier E (eds.). Earthscan
- Barnes J, MacGregor J, Weaver L. 2002. Economic efficiency and incentives for change within Namibia's community wildlife use initiatives. *World Development* 30: 667-681
- Barnes RFW, Dubiure U, Danquah E, Boafo Y, Nandjui A, Hema E, Manford M. 2003. Crop-raiding elephants and the moon. *African Journal of Ecology* 45: 112-115
- Barrett C, Arcese P. 1995. Are Integrated Conservation-Development Projects (ICDPs) Sustainable – On The Conservation Of Large Mammals In Sub-Saharan Africa. *World Development* 23: 1073-1084
- Barrow E, Gichohi H, Infield M. 2000. *Rhetoric Or Reality?: a Review of Community Conservation Policy and Practice in East Africa*. IIED.
- Barrow E, Murphree MW. 2001. Community Conservation: From concept to practice. In *African Wildlife and Livelihoods: The promise and performance of community conservation*, Hulme D, Murphree MW (eds.). James Currey: Oxford, UK; 24-37
- Bassett T, Blanc-Pamard C, Boutrais J. 2007. Constructing locality: the Terroir approach in West Africa. *Africa* 77: 104-129

- Bassi M. 2006. Community conserved areas in the Horn of Africa. *Parks* 16: 28-34
- Bates RH. 1981. *Markets and States in Tropical Africa: The Political Basis of Agricultural Policies*, University of California Press.
- Batterbury S. 1998. Local environmental management, land degradation and the 'gestion des terroirs' approach in West Africa: policies and pitfalls. *Journal of International Development* 10: 871-898
- Batterbury S, Fernando J. 2006. Rescaling Governance and the Impacts of Political and Environmental Decentralization: An Introduction. *World Development* 34: 1851-1863
- Becker C, Ostrom E. 1995. Human ecology and resource sustainability: the importance of institutional diversity. *Annual Review of Ecology and Systematics* 26: 113-133
- Becker L. 2001. Seeing green in Mali's woods: colonial legacy, forest use and local control. *Annals of the Association of American Geographers* 91: 504-526
- Benjaminsen T, Lund C. 2001. *Politics property and production in the West African Sahel*, Elanders Gotab, Stockholm.
- Bergin P. 2001. Reforming a conservation bureaucracy in Tanzania: TANAPA and community conservation. In *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation*, Hulme D, Murphree MW (eds.). James Currey
- Berkes F. 1989. *Common Property Resources: Ecology of Community-Based Sustainable Development*. John Wiley and Sons.
- Berkes F. 2007. Community-based conservation in a globalized world. *Proceedings Of The National Academy Of Sciences Of The United States Of America* 104: 15188-15193
- Biggs R, Bohensky E, Desanker P, Fabricius C, Lynam T, Misselhorn A, Musvoto C, Mutale M, Reyers B, Scholes R, Shinkongo S, van Jaarsveld A. 2004. *Nature Supporting People. The Southern Africa Millennium Ecosystem Assessment*, CSIR.
- Bigombe P. 2002. *Foresterie Communautaire et Réduction de la Pauvreté rurale au Cameroun : Bilan et tendances de la première decennie*, World Rainforest Movement.
- Binot A, Hanon L, Joiris D. 2007. La gestion des périphéries d'AP : Le cas du parc national de Zakouma (Tchad). In *Gestion participative en Afrique Centrale, Quatre études de cas*, Assenmaker P (ed.). Université Libre de Bruxelles; 7-52
- Binot A, Hanon L, Joiris D, Dulieu D. In Press. The challenge of participatory natural resource management with mobile herders at the scale of a Sub-Saharan African protected area. *Biodiversity Conservation*:
- Binot A, Joiris D. 2007. Foncier et conservation de la faune en Afrique subtropicale. Règles d'accès aux ressources naturelles et à la terre pour les riverains des aires protégées. *Vertigo* 7: Hors Serie 4
- Birnie P, Boyle A. 2002. *International Law and the Environment (Second Edition)*, Oxford University Press.
- Biryahwaho B. 2002. Community Perspectives Towards Management of Crop raiding Animals: Experiences of Care – DTC with Communities Living Adjacent to Bwindi Impenetrable and Mgahinga Gorilla National Parks, Southwest Uganda. In *Human-Wildlife Conflict: Identifying the problem and possible solutions*, Hill C, Osborn FV, Plumptre A (eds.). Wildlife Conservation Society

- Blench R. 2004. *Cultural and Biological Interactions in the Savanna Woodlands of Northern Ghana: Sacred Forests and Management of Trees*. Trees, Rain and Politics in Africa: 29 September – 01 October 2004, Oxford.
- Blomley R, Nelson F, Martin A, Ngobo M. 2007. *Community Conserved Areas: A review of status and needs in selected countries of central and eastern Africa*, TILCEPA, TGER, IUCN-CEESP, SwedBio, CEESP, WCPA, IUCN.
- Blomley T. 2003. Natural Resource Conflict Management: The case of Bwindi Impenetrable and Mgahinga Gorilla National Parks, South Western Uganda. In *Power, Participation and Protected Areas: Natural Resource Conflict Management Case Studies*, FAO community forestry unit: Rome, Italy
- Blomley T. 2009. (Draft) Evaluation of the work of the Forest Governance Learning Group 2005 – 2009. A report prepared for the International Institute for Environment and Development (IIED). London
- Blomley T, Namara A. 2003. Devolving rights or shedding responsibilities? Community conservation in Uganda over the last decade. *IUCN Policy Matters* 12: 283-289
- Blomley T, Pfliegner K, Isango J, Zahabu E, Ahrends A, Burgess N. 2008. Seeing the Wood for the Trees: Towards an objective assessment of the impact of Participatory Forest Management on forest condition in Tanzania. *Oryx* 42: 380-391
- Blomley T, Ramadhani H, Mkwizu Y, Bohringer A. In press. Hidden Harvest: Unlocking The Economic Potential Of Community Based Forest Management In Tanzania. In *Governing Africa 's Forests in a Globalized World*, German L, Karsenty A, Tiani A (eds.). Earthscan
- Bocoum A, Cochrane K, Kane O. 2003. Social inclusion: a pre-requisite for equitable and sustainable natural resource management. Two experiences from Mali. In *Securing the Commons*, Trench P, Hesse C (eds.). IIED & SOS Sahel
- Bond I. 1999. *An Assessment of CAMPFIRE as a Vehicle for Sustainable Rural Development in semi-arid Savannas of Zimbabwe. Incentives for Institutional Change*, D.Phil thesis, Department of Agricultural Economics, University of Zimbabwe.
- Bond I. 2001. CAMPFIRE and the incentives for institutional change. In *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation*, Hulme D, Murphree MW (eds.). James Currey: Oxford
- Bond I. 2004. Private Land Contribution to Conservation in South Africa. In *Parks in Transition: Biodiversity, Rural Development and the Bottom Line*, Child B (ed.). Earthscan: London, UK; 29-62
- Bond I, Grieg-Gran M, Wertz-Kanounnikoff S, Hazlewood P, Wunder S, Angelsen A. 2009. *Incentives to sustain forest ecosystem services: A review of current knowledge and implications for Norway's International Climate and Forest Initiative*, CIFOR, IIED and WRI.
- Bonnet B, Marty A, Marie. 2007. *Hydraulique et sécurisation des systèmes pastoraux au Sahel appui à la gestion locale*, IRAM.
- Borrini-Feyerabend G, Pimbert M, Farvar M, Kothari A, Renard Y. 2004. *Sharing Power: Learning by Doing in Co-management of Natural Resources Throughout the World*, IIED/IUCN/CEESP/CSD/CMWG, Tehran / Gland.

- Boutrais J. 2008. Pastoralisme et aires protégées d'Afrique de l'Ouest en regard de l'Afrique de l'Est. In *Aires protégées, espaces durables?*, Aubertin C, Rodary E (eds.). IRD; 215-246
- Bratton M, van de Walle N. 1997. *Democratic Experiments in Africa: Regime Transitions in Comparative Perspective*, Cambridge University Press.
- Brockington D. 2008. Corruption, Taxation and Natural Resource Management in Tanzania. *Journal of Development Studies* 44: 103-126
- Brockington D, Duffy R, Igoe J. 2008. *Nature Unbound: Conservation, Capitalism and the Future of Protected Areas*, Earthscan, London.
- Brown D, Bird N. 2008. *The REDD road to Copenhagen: Readiness for what?* ODI Opinion, Overseas Development Institute
- Brown D, Schreckenber K. 2001. *Community forestry: facing up to the challenge in Cameroon*. Rural Development Forestry Network Paper 25a, ODI.
- Brown S. 2006. *Methodological Issues related to accounting of reduced emissions from deforestation* Workshop: "Reducing Emissions from Deforestation in Developing Countries". Bad Blumau, Austria.
- Burkina Faso. 1989. *Rapport de synthèse et d'analyse des expériences pilotes de gestion des terroirs villageois*. Burkina Faso, Cellule de coordination du PNGTV, Ouagadougou.
- BurnSilver S. 2009. Pathways of continuity and change: Maasai livelihoods in Amboseli, Kajiado District, Kenya. In *Staying Maasai? Livelihoods, Conservation, and Development in East African Rangelands*, Homewood K, Kristjanson P, Trench P (eds.). Springer Press; 161-207
- BurnSilver S, Mwangi E. 2007. *Beyond Group Ranch Subdivision: Collective Action for Livestock Mobility, Ecological Viability, and Livelihoods*. CAPRI Working Paper No. 66, International Food Policy Research Institute.
- Byamukama J, Asuma S. 2006. Human-Gorilla Conflict Resolution (HuGo) – the Uganda Experience. *Gorilla Journal* 32:
- CAMPFIRE Association. 2009. *Report on the Proceedings of the Workshop on the Institution of Best Practices in CAMPFIRE hunting Areas*, Unpublished Report. CAMPFIRE Association, Harare.
- CAR. 2007. *Community Based Natural Resource Management, Rural Livelihoods and Environmental Sustainability*, Centre for Applied Research, Phase three Botswana country report. Prepared for IUCN–South Africa and USAID FRAME.
- CARE. 2008. *The Application of a Rights Based Approach to CARE Denmark's Agriculture and Natural Resource Programmes: A review of experiences from Ghana and Uganda*, CARE Denmark.
- Carerre R. 2007. *Cameroon: Community forests in a sea of industrial logging*, World Rainforest Movement.
- Casti E. 2004. *A Reflexive Cartography to Tackle Poverty, A Model of Participatory Zoning*, Proceedings of the International Conference on Nature, Bangkok, November 2004
- CBFF. 2009. *Congo Basin Forest Fund: a Global Response to a Global Issue*, Congo Basin Forest Fund.
- CBFP. 2006. *The forests of the Congo Basin. State of the Forest 2006*, Congo Basin Forest Partnership.

- Chabal P, Daloz J. 1999. *Africa Works: Disorder as Political Instrument*, James Currey.
- Chambers R. 1983. *Rural Development: Putting the Last First*, Prentice Hall.
- Chambers R. 1987. *Sustainable rural livelihoods: A strategy for people, environment and development*, Institute of Development Studies.
- Chauveau J. 2000. *The land tenure question in Cote d'Ivoire: a lesson in history*, Institut de Recherche pour le Développement, Marseille, France.
- Chhatre A. 2008. Political articulation and accountability in decentralization: theory and evidence from India. *Conservation and Society* 6: 12-23
- Chhetri P, Barrow EGC, Muhweezi A. 2004. *Securing Protected Area Integrity and Rural People's livelihoods: Lessons from Twelve Years of the Kibale and Semliki Conservation and Development Project*. IUCN Eastern Africa Programme.
- Child B. 1988. *The role of wildlife utilisation in the sustainable development of semi-arid rangelands in Zimbabwe*, D.Phil Thesis. University of Oxford.
- Child B (ed.). 2004. *Parks in Transition: Biodiversity, Rural Development and the Bottom Line*, Earthscan, London, UK.
- Child B. 2005. Principles, practice, and results of CBNRM in Southern Africa. In *Natural Resources as Community Assets – Lessons from Two Continents*, Lyman M, Child B (eds.). Sand County Foundation & Aspen Institute
- Child B. 2006. *Critical conditions for Community Conservation, poverty reduction and civil society in Southern Africa*, Power, poverty and sustainability: the role of impact assessment. 26th Annual Conference International Association for Impact Assessment. 23 - 26 May 2006. Stavanger, Norway.
- Child B, Jones B, Mazambani D, Mlalazi A, Moinuddin H. 2003. *Final Evaluation Report: Zimbabwe Natural Resources Management Program – USAID/ Zimbabwe Strategic Objective No. 1. CAMPFIRE, Communal Areas Management Programme for Indigenous Resources*, USAID.
- Child B, McKean SG, Kiss A, Munthali SM, Jones B, Mtsambiwa M, Castley G, Patton C, Magome H, Pangeti G, Fearnhead P, Johnson S, Chilikusha G. 2004. Innovations in Park Management. In *Parks in Transition, Rural Development and the Bottom Line*, Child B (ed.). Earthscan; 125-164
- Child B, Weaver DB. 2006. Marketing hunting and tourism joint ventures in community areas. *Participatory Learning and Action* 55: 37-44
- Christy P. 1997. Les aspects juridiques de la gestion de la faune sauvage au Gabon. In *Etude critique de la législation relative a la gestion de la faune sauvage au Gabon*, Christy P, Doumbe-Bille S (eds.). WWF-Gabon, Libreville, Gabon and IUCN, Gland, Switzerland
- CI. 2006. *CARPE USAID final technical report. Monte Alen segment, Equatorial Guinea, Monte Alen – Monte de Cristal Landscape (1) and Maiko Tayna Kahuzi-Biega Landscape (10) Democratic Republic of Congo*, Conservation International
- Coad L. 2007. *Bushmeat hunting in Gabon: Socio-economics and hunter behaviour*, PhD Thesis, University of Cambridge.
- Coad L, Burgess N, Fish L, Ravillious C, Corrigan C, Pavese H, Granziera A, Besancon C. 2008. Progress towards the Convention on Biological Diversity terrestrial 2010 and marine 2012 targets for protected area coverage. *Parks* 17: 35-42

- Colchester M. 1994. *Salvaging nature: indigenous peoples, protected areas and biodiversity conservation*. Discussion Paper n° 55, Geneva, UNRISD.
- Collier P. 2005. *The Bottom Billion. Why the poorest countries are failing and what can be done about it*, Oxford University Press.
- Collins S, Snel H. 2008. A Perspective on Community Based Tourism from South Africa: The TRANSFORM Programme. In *Responsible Tourism: Critical Issues for Conservation and Development*, Spenceley A (ed.). Earthscan: London; 85-106
- Colom A. 2006. *The socioeconomic aspects of natural resource use and management by local communities in the Salonga-Lukenie-Sankuru Landscape: Guidelines for conservation and livelihood improvement*, WWF DRC.
- Cotula L, Dyer N, Vermeulen S. 2008. *Fuelling Exclusion? The biofuels boom and poor people's access to land*, IIED.
- Cotula L, Mayers J. 2009. *Tenure in REDD – Start-point or afterthought?* Natural Resource Issues No. 15, IIED.
- Cumming DHM. 2004. Performance of Parks in a Century of Change. In *Parks in Transition: Biodiversity, Rural Development and the Bottom Line*, Child B (ed.). Earthscan; 105-124
- Cumming DHM, Biggs H, Kock M, Shongwe N, Osofsky S. 2007. *The AHEAD (Animal Health for the Environment and Development) – Great Limpopo Transfrontier Conservation Area (GLTFCA) Programme: Key questions and conceptual framework revisited*.
- Dalal-Clayton B, Child B. 2003. *Lessons from Luangwa: The story of Luangwa Integrated Resource Development Project, Zambia*. IIED, London, UK.
- Darkoh MBK. 2003. Regional perspectives on agriculture and biodiversity in the drylands of Africa. *Journal of Arid Environments* 54: 261-279
- Davidson A, Mufati R, Ndjavera U. 2006. Community-managed tourism small enterprises in Namibia. *Participatory Learning and Action* 55: 45-55
- de Merode E, Homewood K, & Cowlshaw G. 2004. The value of bushmeat and other wild foods to rural households living in extreme poverty in Democratic Republic of Congo. *Biological Conservation* 118:573-581.
- de Visscher M, Ancey V. 2001. *Préparation du schéma directeur du volet recherche pour le Comité Technique de Suivi d'avril 2001. Ouagadougou : Parc W*.
- Debroux L, Hart T, Kaimowitz D, Karsenty A, Topa G. 2007. *Forests in Post-Conflict Democratic Republic of Congo: Analysis of a Priority Agenda*, World Bank, CIFOR, CIRAD, AWF, CNONGD, CI, GTF, LINAPYCO, SNV, REPEC, WCS, WHRC, ICRAF & WWF.
- Delvingt W. 2001. *La foret des hommes: Terroirs villageois en foret tropical africaine*, Les presses agronomiques de Gembloux.
- Devarajan S, Dollar D, Holmgren T. 2001. *Aid and Reform in Africa: Lessons from Ten Case Studies*, World Bank.
- DFID. 2002. *Wildlife and Poverty Study*, DFID Livestock & Wildlife Advisory Group.
- Du Toit JT, Cumming DHM. 1999. Functional significance of ungulate diversity in African savannas and the ecological implications of the spread of pastoralism. *Biodiversity and Conservation* 8: 1643-1661
- Du Toit R. 1999. *Savé Valley Conservancy as a Model for the Conservation of Biodiversity in the African Semi-Arid Savanna*, IFC-SMA Programme Conference, Washington D.C.

- Durbin J, Jones B, Murphree MW. 1997. *Namibian Community-Based Natural Resource Management Programme*. (WWF NA 0004: Namibia). Project Evaluation, WWF.
- Easton J. 2004. *Hunting for Conservation Targets: Designing a Community-Conservation Area Network for Maputaland, South Africa*, MSc thesis, DICE, University of Kent.
- ECOFAC. 2008. *Les zones Cynegetiques villageoises (Republique Centrafricaine)*. (<http://www.ecofac.org/Composantes/ZonesCynegetiquesVillageoises.htm>). Accessed 30/06/09.
- ECOFAC. 2009. *ECOFAC homepage*. (<http://www.ecofac.org/index.htm>). Accessed 30/06/2009.
- ECOPAS. 2007. *Atlas on Regional Integration in West Africa: population series, Ecosystems protégés en Afrique Soudano-Sahélienne*.
- ECOWAS, SWAC/OECD. 2008. *Livestock and regional market in the Sahel and West Africa: Potentials and challenges*, ECOWAS / SWAC / OECD.
- Edja H. 2001. *Land rights under pressure: Access to resources in southern Benin*, IIED.
- Egbe S. 2001. The concept of community forestry under Cameroonian Law. *Journal of African Law* 45: 25-50
- Eliasch J. 2008. *Climate Change: financing global forests: the Eliasch Review*, Earthscan.
- Ellis J, Swift D. 1988. Stability of African Pastoral Ecosystems: Alternative Paradigms and Implications for Development. *Journal of Range Management* 41: 450-459
- Emerton L. 2001. The Nature of Benefits and the Benefits of Nature: Why Wildlife Conservation has not Economically Benefited Communities in Africa. In *African Wildlife & Livelihoods: the promise and performance of community conservation*, Hulme D, Murphree MW (eds.). James Currey: Oxford, UK; 208-226
- Engamba P. 2007. L'aulacodiculture au Cameroun. *InfoTraffic* 8:6-7.
- Engberg-Pedersen L. 1995. *Creating local democratic politics from above: the 'Gestion des Terroirs' approach in Burkina Faso*. Issue Paper, Drylands Programme, IIED.
- Engel S, Pagiola S, Wunder S. 2008. Designing payments for environmental services in theory and practice: An overview of the issues. *Ecological Economics* 65: 663-674
- Fabricius C. 2004. The fundamentals of community-based natural resource management. In *Rights, Resources & Rural Development: Community-based Natural Resource Management in Southern Africa*, Fabricius C, Koch E (eds.). Earthscan; 3-43
- Fabricius C, Koch E, Magome H, Turner S (eds.). 2004. *Rights, resources and rural development: Community-based Natural Resource Management in Southern Africa*, Earthscan, London, UK.
- FAO. 1999. *The state of collective tenure and community participation in Burkina Faso. Land Reform*, UN Food and Agriculture Organisation.
- FAO. 2006. *FAO Forestry country profiles – forest management*, Un Food and Agriculture Organisation.
- Ferraro P, Pattanayak S. 2006. 'Money for nothing? A call for empirical evaluation of biodiversity conservation investments' *PLoS Biology* 4: 482-488

- Fomete T, Vermaat J. 2001. *Community Forestry and Poverty Alleviation in Cameroon*. Network paper 25h, Rural Development Forestry Network, Overseas Development Institute.
- Forests Monitor. 2001. *Sold Down the River. The Need to Control Transnational Forestry Corporations: A European Case Study*, Forests Monitor.
- Fortmann L (ed.). 2008. *Participatory Research in Conservation and Rural Livelihoods. Doing Science Together*, Blackwell.
- Fournier A, Toutain B. 2008. *Suivi des activités en matière de pastoralisme et de transhumance dans la zone d'influence du parc régional du W du Niger (Juillet et Septembre 2007) Rapport de mission Programme Parc W/Ecopas UE IRD Cirad*.
- Frost P, Bond I. 2008. The CAMPFIRE programme in Zimbabwe: Payments for wildlife services. *Ecological Economics* 65: 776-787
- Gami N. 2003. *Le Sanctuaire de gorilles de Lossi (Congo). Les leçons d'une démarche participative*, FORAFRI.
- GBBP. 2008. *Ghana Butterfly Biodiversity Project*. (<http://iz.carnegiemnh.org/GhanaBFly/Background.asp>). Accessed 04/06/09.
- Georgiadis N, Hack M, Turpin K. 2003. The influence of rainfall on zebra population dynamics: implications for management. *Journal Of Applied Ecology* 40: 125-136
- Georgiadis N, Ihwagi F, Olwero N, Romanach S. 2007. Savanna herbivore dynamics in a livestock-dominated landscape. II: Ecological, conservation, and management implications of predator restoration. *Biological Conservation* 137: 473-483
- Ghana News. 2008. *Minister bemoans fragmented forest ecosystem*, Ghana News.
- Gibson C. 1999. *Politicians and Poachers: The Political Economy of Wildlife Policy in Africa*, Cambridge University Press.
- Gibson D. 2007. *CBNRM and Climate Change Adaptations. Proceedings of the SADC Regional Forum on Implementation of the UNCCD*, SADC-IUCN.
- Gray K. 2003. Multilateral Environmental Agreements in Africa: Efforts and problems in Implementation. *International Environmental Agreements: Politics, Law and Economics* 3: 97-135
- Gray L. 2002. Environmental policy, land rights, and conflict: rethinking community natural resource management programs in Burkina Faso. *Environment and Planning D – Society and Space* 20: 167-182
- Griffiths T. 2008. *Seeing 'REDD'? Forests, climate change mitigation and the rights of indigenous peoples and local communities. Updated Report*, Forest Peoples Programme.
- Grossman D, Holden P. 2007. *Case studies on successful southern African NRM initiatives and their impacts on poverty and governance: South Africa*, IUCN/ USAID FRAME.
- Grossman D, Holden P. 2009. Towards Transformation: Contractual Parks in South Africa. In *Evolution and Innovation in Wildlife Conservation: Parks and Game Ranches to Transfrontier Conservation Areas*, Suich H, Child B, Spenceley A (eds.). Earthscan; 357-372

- GTZ. 2008. *Pendjari Biosphere Reserve in Benin: Benefitting humankind as well as nature conservation*, GTZ.
- Hahn BD, Richardson FD, Hoffman MT, Roberts R, Todd SW, Carrick PJ. 2005. A simulation model of long-term climate, livestock and vegetation interactions on communal rangelands in the semi-arid Succulent Karoo, Namaqualand, South Africa. *Ecological Modelling* 183: 211-230
- Hesse C, MacGregor J. 2006. *Pastoralism: Drylands' Invisible Asset?* IIED Issue Paper No. 142, IIED.
- Hesse C, Thebaud B. 2006. Will Pastoral Legislation Disempower Pastoralists in the Sahel? *Indigenous Affairs* 1: 14-23
- Higgins SI, Shackleton CM, Robinson ER. 1999. Changes in woody community structure and composition under contrasting landuse systems in a semi-arid savanna, South Africa. *Journal Of Biogeography* 26: 619-627
- Hilhorst T, Coulibaly A. 1998. *Elaborating a local convention for managing village woodlands in southern Mali*, IIED.
- Hitimana J, Namara A, Sengalima T, Nyirimana J. 2006. *Community-Based Natural Resource Management (CBNRM) Plan. Kinigi Area, Rwanda*, International Gorilla Conservation Programme.
- Homewood K, Lambin E, Coast E, Kariuki A, Kikula I, Kivelia J, Said M, Serneels S, Thompson M. 2001. Long-term changes in Serengeti-Mara wildebeest and land cover: pastoralism, population or policies? *Proceedings Of The National Academy Of Sciences Of The United States Of America* 98: 12544-12549
- Homewood K, Trench P, Kristjanson P. 2009. Staying Maasai? Pastoral Livelihoods, Diversification and the Role of Wildlife in Development. In *Staying Maasai? Livelihoods, Conservation and Development in East African Rangelands*, Homewood K, Kristjanson P, Trench P (eds.). 369-408
- Honey M. 2008. *Ecotourism and sustainable development: Who owns paradise?*, 2nd Edition, Island Press.
- Houben P. 1999. Cette Afrique centrale que l'on connait si mal... Élevage d'aulacodes au Gabon: Éléments de bilan. *Canopee*:15.
- Hurst A. 2004. *Not Yet Out of the Woods: a Political Ecology of State Forest Policy and Practice in Mainland Tanzania, 1961-1998*, PhD Thesis, University of Oxford.
- Hutton J, Adams W, Murombedzi J. 2005. 'Back to the barriers?: Changing narratives in biodiversity conservation. *Forum for Development Studies* 32: 341-370
- Hyden G. 2008. *Institutions, power and policy outcomes in Africa*. Discussion paper No. 2, Africa Power and Politics Programme, Overseas Development Institute, London.
- Ibo J. 1997. *La SODEFOR et la Cogestion Forestiere en Cote d'Ivoire. Ou en est-on?*, IIED.
- IIED. 1994. *Whose Eden? an overview of community approaches to wildlife management*, International Institute for Environment and Development.
- IIED. 1999. *Land Tenure and Resource Access in West Africa: Issues and Opportunities for the next Twenty Five Years*, IIED.

- IPCC. 2007. *Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability. Summary for Policymakers. Working Group II Contribution to the Intergovernmental Panel on Climate Change, Fourth Assessment Report*, Intergovernmental Panel on Climate Change, Geneva, Switzerland.
- Jabs L. 2007. Where Two Elephants Meet, the Grass Suffers: A Case Study of Intractable Conflict in Karamoja, Uganda. *American Behavioral Scientist* 50: 1498-1519
- Joiris D. 1996. *Importance des terroirs coutumiers pour la conservation: réflexions à partir du programme ECOFAC au Cameroun, au Gabon, au Congo et en République Centrafricaine*, Actes du colloque panafricain sur la gestion communautaire des ressources naturelles et le développement durable, 24-27 juin 1996, Harare, Zimbabwe.
- Joiris D. 2000. Terroirs coutumiers et plan d'aménagement. In *Administrer l'environnement en Afrique*, Compagnon D, Constantin F (eds.). IFRA
- Joiris D, Bigombe P. 2008. Dynamiques participatives et développement local dans le bassin congolais. Des rendez-vous manqués ? In *Gouvernance et environnement en Afrique centrale : le modèle participatif en question*, Arnoldussen D, Binot A, Joiris D, Trefon T, Roulet P, Assenmaker P (eds.). MRAC
- Jones B. 2001. The Evolution of a Community-based approach to wildlife management at Kunene, Namibia. In *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation*, Hulme D, Murphree MW (eds.). James Currey: Oxford
- Jones B. 2004a. *CBNRM, poverty reduction and sustainable livelihoods: Developing criteria for evaluating the contribution of CBNRM to poverty reduction and alleviation in southern Africa*. CASS/PLAAS.
- Jones B. 2004b. *Synthesis of the current status of CBNRM Policy and Legislation in Botswana, Malawi, Mozambique, Namibia, Zambia and Zimbabwe*, WWF-SARPO.
- Jones B. 2008. *Community Wildlife Management in Southern Africa: A review of current research activity in the region and of recent literature*, IIED.
- Jones B, Mosimane A. 2007. *Promoting Integrated Community Based Natural Resource Management as a Means to Combat Desertification: The Living in a Finite Environment (LIFE) Project, Namibia*. USAID.
- Jones B, Murphree MW. 2001. The evolution of policy on community conservation in Namibia and Zimbabwe. In *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation*, Hulme D, Murphree MW (eds.). James Currey: Oxford, UK; 38-58
- Jones B, Murphree MW. 2004. CBNRM as a conservation mechanism: Lessons and directions. In *Parks in Transition: Rural Development, Biodiversity and the Bottom Line*, Child B (ed.). Earthscan: London, UK; 63-104
- Jori F, Lopez Bejar M, Houben P. 1998. The biology and use of the African brush-tailed porcupine (*Atherus africanus*, Gray, 1842) as a food animal. A review. *Biodiversity and Conservation* 7: 1417-1426
- Kaba O. 2007. Biodiversity conservation of the Diaban basin 'Diaban Wula Lakana' (Sikasso Region, Mali). *International NGO Journal* 2: 60-62

- Kajembe G, Nduwamungu J, Luoga E. 2006. *The impact of Community Based Forest Management and Joint Forest Management on the Forest Resource Base and local peoples livelihoods*. Case studies from Tanzania. Commons Southern Africa Occasional Series, No. 8, Centre for Applied Social Sciences, University of Harare, Zimbabwe.
- Kamiss A, Turkalo A. 1999. *Elephant Crop Raiding in the Dzanga-Sangha Reserve, Central African Republic*.
- Karanja F, Tessema Y, Barrow E. 2002. *Equity in the Loita/Purko Naimina Enkiyio Forest in Kenya: Securing Maasai Rights to and Responsibilities for the Forest*. Forest and Social Perspectives in Conservation, No. 11, IUCN Eastern Africa Programme.
- Kasanga K. 2002. Land tenure, resource access and decentralisation in Ghana. In *The dynamics of resource tenure in West Africa*, Toulmin C, Lavigne P, Traore S (eds.). IIED
- Kasanga K, Kotey N. 2001. *Land management in Ghana: building on tradition and modernity*, DFID.
- Kassibo B. 2002. *Participatory management and democratic decentralisation management of the samori forest in Babye commune, Mopti region, Mali*, World Resources Institute.
- Keigwin M. 2007. Elephant crop-raiding in Southern Queen Elizabeth Conservation Area, Uganda. In *Mitigating Human-Elephant Conflict: Case Studies from Africa and Asia*, Walpole M, Linkie M (eds.). Fauna & Flora International, Cambridge; 7-12
- Kellsall T. 2008. Going with the Grain in African Development? *Development Policy Review* 26: 627-655
- Kenneth AA. 2006. *Community-based forest enterprises in Cameroon: A case study of the Ngola-Achip Community Forest in East Cameroon*. International Tropical Timber Organization, Forest Trends, Rights and Resources Institute, IUCN-Central Africa.
- Kesse M. 2002. Co-Management: A participatory approach to sustainable forests in Cote d'Ivoire. In *The dynamics of resource tenure in West Africa*, Toulmin C, Lavigne P, Traore S (eds.). IIED
- Kinoti J. 2007. *The Lewa Wildlife Conservancy, Kenya*. IUCN Review of Communities and their natural resources – Sharing experiences and learning lessons in East Africa, IUCN.
- Kiss A. 1990. *Living With Wildlife: Wildlife Resource Management With Local Participation in Africa* World Bank.
- Koppert G, Dounias E, Froment A, Pasquet P. 1996. Consommation alimentaire dans trois populations forestieres de la région côtière du Cameroun : Yassa, Mvae et Bakola. In *L'alimentation en forêt tropicale : interactions bioculturelles et perspectives de développement*, Hladik C, Hladik A, Pagezy H, Linares O, Koppert G, Froment A (eds.). UNESCO
- Kramer R, van Schaik C, & Johnson J. 1997. *Last Stand: Protected Areas and the Defense of Tropical Biodiversity*. OUP USA.
- Kumpel NF. 2006. *Incentives for sustainable hunting of bushmeat in Rio Muni, Equatorial Guinea*, PhD thesis, Institute of Zoology, Zoological Society of London and Imperial College London, University of London.

- Lahm S. 1996. A nation-wide survey of crop-raiding by elephants and other species in Gabon. *Pachyderm* 21: 69-77
- Latham J. 2005. *Nyika vanhu – the land is the people: An examination of natural resource management in Zimbabwe's communal lands*, D.Phil. Thesis, Centre for Applied Social Sciences, University of Zimbabwe.
- Leach M, Mearns R, Scoones I. 1999. Environmental Entitlements: Dynamics and Institutions in Community-Based Natural Resource Management. *World Development* 27: 225-247
- Lepp A, Gibson H. 2003. Tourist roles, perceived risk and international tourism. *Annals of Tourism Research* 30: 606-624
- Lewis D, Alpert P. 1997. Trophy Hunting and Wildlife Conservation in Zambia. *Conservation Biology* 11: 59-68
- LIFE. 2004. *End of Project Report Phase II: For the period August 12, 1999 – September 30, 2004*, WWF-LIFE Project.
- Lindsey PA, Alexander R, Frank LG, Mathieson A, Romanach SS. 2006. Potential of trophy hunting to create incentives for wildlife conservation in Africa where alternative wildlife-based land uses may not be viable. *Animal Conservation* 9: 283-291
- Lindsey PA, Roulet P, Romanach SS. 2007. Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa. *Biological Conservation* 134: 455-469
- Living Earth. 2008. *Periphery Community Engagement Project* (DPCEP). (http://www.livingearth.org.uk/africa_programmes/cameroon/dcep.html). Accessed 4/7/09.
- Lund J. 2007. Money Talks: CBFM and Village Revenue Collection in Iringa District. *The Arc Journal, Tanzania Forest Conservation Group* 21: 14-16
- Lund J, Treue T. 2008. Are We Getting There? Evidence of Decentralized Forest Management from the Tanzanian Miombo Woodlands. *World Development* 36: 2780-2800
- MA. 2005. *Millennium Ecosystem Assessment: Ecosystems and Human Well-being: Synthesis*, Island Press.
- Macfie E. 2000. *Human-Gorilla conflict resolution: recommendations for component within IGCP Uganda Programming*, International Gorilla Conservation Programme.
- Madzudzo E, HaBarad J, Matose F. 2006. *Outcomes of community engagement in community-based natural resource management programmes*. PLAAS.
- Mamang-Kanga J. 2008. *Etude Comparative des Zones Cynégétiques Villageoises (ZCV), Résultats en Afrique Centrale*, Research Presentation.
- Mamdani M. 1996. *Citizen and Subject: Contemporary Africa and the Legacy of Late Colonialism*, Princeton University Press.
- Marks S. 2008. *On the Ground and in the Villages: A Cacophony of Voices Assessing a "Community-based" Wildlife Program after Eighteen Years (The Munyamadzi Game Management Area, Central Luangwa Valley, Zambia)*, Sand County Foundation/Bradley Fund for the Environment.
- Martin A. 2008. *Community Conservation: lessons learned. A report on the experience of community conservation enterprises undertaken by the International Gorilla Conservation Programme*, Unpublished.

- Martin R. 1986. *Communal Areas Management Programme for Indigenous Resources (CAMPFIRE)*, Government of Zimbabwe, Department of National Parks and Wildlife Management, Branch of Terrestrial Ecology.
- Mbaiwa JE. 2008. The realities of ecotourism development in Botswana. In *Responsible Tourism: Critical issues for conservation and development*, Spenceley A (ed.). Earthscan: London, UK; 205-224
- Mbaku J, Ihonvbere J. 2006. *Multiparty Democracy and Political Change: Constraints to Democratization in Africa*, Africa World Press.
- Mbitikon R. 2005. Les zones cynegétiques villageoises: Une expérience de gestion participative des ressources naturelles en République Centrafricaine. *Game and Wildlife Science* 21: 219-225
- Mehlman P, Kernan C, Bonilla JC. 2006. *Conservation International CARPE USAID Final Technical Report. Monte Alen Segmet, Equatorial Guinea, Monte Alen – Monte de Cristal Landscape (1) ad Maiko Tayna Kahuzi-Biega Landscape (10) Democratic Republic of Congo*, Conservation International.
- Mgumia F, Oba G. 2003. Potential role of sacred groves in biodiversity conservation in Tanzania. *Environmental Conservation* 30: 259-265
- Milledge S, Gelvas I, Ahrends A. 2007. *Forestry, Governance and National Development: Lessons Learned from a Logging Boom in Southern Tanzania*, TRAFFIC East/Southern Africa, Tanzania Development Partners Group, Ministry of Natural Resources and Tourism.
- Mitchell J, Keane J, Laidlaw J. 2008. *Making success work for the poor: Package tourism in northern Tanzania*, ODI & SNV.
- Mizutani F, Muthiani E, Kristjanson P, Recke H. 2005. Impact and value of wildlife in pastoral livestock production systems in Kenya: Possibilities for healthy ecosystem conservation and livestock development for the poor. In *Conservation and Development Interventions at the Wildlife/livestock Interface: Implications for Wildlife, Livestock and Human Health*, Osofsky S, Cleaveland S, Karesh W, Kock M, Nyhus P, Starr L, Yang A (eds.). IUCN; 121-132.
- MNRT. 1998. *The Wildlife Policy of Tanzania*, Ministry of Natural Resources and Tourism, The United Republic of Tanzania.
- MNRT. 2008a. *Action Research into Poverty Impacts of Participatory Forest Management (ARPIP) Case Studies from the Eastern Arc Mountains area of Tanzania. Conservation and Management of Eastern Arc Mountain Forests, Tanzania: Socio-economic Monitoring Programme*, Ministry of Natural Resources and Tourism, United Republic of Tanzania.
- MNRT. 2008b. *From Establishment To Development. Tanzania's Wildlife Management Areas*, Ministry of Natural Resources and Tourism, United Republic of Tanzania.
- MNRT. 2008c. *Participatory Forest Management in Tanzania: Facts and Figures*, Forestry and Beekeeping Division, Ministry of Natural Resources and Tourism, United Republic of Tanzania.
- Mockrin. 2005. *Wildlife farming: a viable alternative to hunting in tropical forests?*, Wildlife Conservation Society.
- Monela G, Chamshama S, Mwaipopo R, Gamassa D. 2005. *A study on the social, economic, and environmental impacts of forest landscape restoration in Shinyanga Region, Tanzania*, IUCN-EARO, Nairobi, Kenya and Ministry of Natural Resources and Tourism, Dar es Salaam, Tanzania.

- Mongbo R. 2008. State Building and Local Democracy in Benin: Two Cases of Decentralised Forest Management. *Conservation and Society* 6: 49-61
- Moore D. S. 1998. Clear waters and muddled histories: Environmental history and the politics of community in Zimbabwe's eastern highlands. *Journal of Southern African Studies* 24:377-403.
- Moore DS. 2005. *Suffering for Territory: Race, Place and Power in Zimbabwe*, Weaver Press.
- Murombedzi J. 1992. *Decentralization or Recentralization? Implementing CAMPFIRE in the Omay Communal Lands of the Nyaminyami District*. CASS Working Paper, University of Zimbabwe, Centre for Applied Social Sciences.
- Murombedzi J. 2001. Committees, Rights, Costs & Benefits. In *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation*, Hulme D, Murphree M (eds.). James Currey; 244-255
- Murphree MW. 1993. *Communities as resource management institutions*. Gatekeeper series no. 36, IIED.
- Murphree MW. 2000. *Boundaries and borders: the question of scale in the theory and practice of common property management*, VIIIth biennial conference of the International Association for the Study of Common Property, Bloomington, Indiana, USA.
- Murphree MW. 2001. A case study in ecotourism development from Mahenye, Zimbabwe. In *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation*, Hulme D, Murphree M (eds.). James Currey
- Murphree MW. 2004. Communal Approaches to Natural Resource Management in Africa: From Whence and to Where? *Journal of International Wildlife Law and Policy* 7: 203-216
- Murphree MW. 2005. Congruent Objectives, Competing Interests, and Strategic Compromise: Concept and Process in the Evolution of Zimbabwe's CAMPFIRE, 1984-1996. In *Communities and Conservation: Histories and Politics of Community-based Natural Resource Management*, Brosius JP (ed.). AltaMira Press; 105-147
- Murphree MJ. 2008a. *Community Resource Management Areas (CREMA): A Review of Progress and Implementation in the Western Region of Ghana*, Wildlife Division (Forestry Commission), Republic of Ghana.
- Murphree MW. 2008b. *The strategic pillars of communal natural resource management: benefit, empowerment and conservation*, "Regards Croisés sur la Tapoa" workshop, a Pan-African workshop on community-based natural resource management approaches. Niamey, Niger 10th-12th March 2008.
- Murphree MJ, Mudzanani P, Murphree MW and Whande W. 2008. "Putting People First. People and Planners in the Great Limpopo Trans Frontier Conservation Area" Paper presented to the IASC Congress, Cheltenham, U.K., July.
- Murphy C, Roe D. 2004. Livelihoods and Tourism in Communal Area Conservancies. In *Livelihoods and CBNRM in Namibia: The Findings of the WILD Project. Final Technical Report of the Wildlife Integration for Livelihood Diversification Project*, Long SA (ed.). Ministry of Environment and Tourism. Windhoek, Namibia
- Muruthi P. 2005. *Human Wildlife Conflict: Lessons Learned From AWF's African Heartlands*. AWF Working Papers, African Wildlife Foundation.

- Mustalahti I. 2006. How to handle the stick: Positive processes and crucial barriers of Participatory Forest Management. *Forests, Trees and Livelihoods* 16: 151-165
- Musumali M, Larsen T, Kaltenborn B. 2007. An impasse in community based natural resource management implementation: the case of Zambia and Botswana. *Oryx* 41: 306-313
- Mwangi E. 2007. The Puzzle of Group Ranch Subdivision in Kenya's Maasailand. *Development and Change* 38: 889-910
- Mwihikomeke S, Msangi T, Mabula C. 1998. Traditionally protected forests and nature conservation in the North Pare Mountains and Handeni District, Tanzania. *Journal of East African Natural History* 87: 1-12
- NACSO. 2004. *Namibia's communal conservancies: A review of progress and challenges*, Namibia Association of CBNRM Support Organisations.
- NACSO. 2007. *Namibia's communal conservancies: A review of progress in 2006*. Namibian Association of CBNRM Support Organisations, Windhoek.
- NACSO. 2008. *Namibia's communal conservancies: A review of progress and challenges in 2007*, Namibian Association of CBNRM Support Organisations.
- Namara A. 2006. From paternalism to real partnership with local communities? Experiences from Bwindi Impenetrable National Park (Uganda). *Africa Development* 31: 39-68
- Namara A, Franks P, McNeillage A, Blomley T, Malpas R, Infield M. 2003. *Bwindi Impenetrable and Mgahinga Gorilla National Parks in Uganda: has 15 years of ICD programming succeeded in increasing support for conservation among local communities?*, World Parks Congress, Durban, South Africa.
- Namara A, Nsabagasani X. 2003. *Decentralisation and wildlife management: Devolving rights and shedding responsibility? Bwindi Impenetrable National Park*, Uganda. World Resources Institute, Washington D.C., U.S.A.
- NCRC. 2008. *Nature Conservation Research Centre*. (<http://www.ncrc-ghana.org>). Accessed 08/07/09.
- Nelson F. 2004. *The evolution and impacts of community-based ecotourism in Tanzania*. International Institute for Environment and Development, London, UK.
- Nelson F. 2007. *Emergent or Illusory? Community Wildlife Management in Tanzania*. IIED, London, UK.
- Nelson F. 2008. Are large mammal declines inevitable? *African Journal Of Ecology* 46:3-4.
- Nelson F. Unpublished paper. *Natural Conservationists? Evaluating the Impact of Pastoralist Land Use Practices on Tanzania's Wildlife Economy*'.
- Nelson F, Agrawal A. 2008. Patronage or Participation? Community-Based Natural Resource Management Reform in Sub-Saharan Africa. *Development and Change* 39: 557-585
- Nelson F, Nshala R, Rodgers W. 2007. The Evolution and Reform of Tanzanian Wildlife Management. *Conservation and Society* 5: 232-261
- Nelson F, Ole Makko S. 2005. *Communities, conservation, and conflicts in the Tanzanian Serengeti*. Third Annual Community-based conservation network seminar: turning natural resources into assets, Savannah Georgia, forthcoming. (http://sandcounty.net/assets/chapters/assets_chapter_5.pdf). Accessed 27/6/2006.

- Neumann R. 1998. *Imposing Wilderness: Struggles Over Livelihood and Nature Preservation in Africa*, University of California Press.
- Nhantumbo I. 2007. *Forest Tenure in Southern Africa*. IUCN – Eastern Africa Regional Office.
- Nhantumbo I, Anstey S. 2007. Community Based Natural Resource Management in Mozambique: progressive policy framework but challenging implementation. In Unpublished report
- Norton-Griffiths M. 2007. How Many Wildebeest Do You Need? *World Economics* 8: 41-64
- Norton-Griffiths M, Southey C. 1995. The opportunity costs of biodiversity conservation in Kenya. *Ecological Economics* 12: 125-139
- Novaro A, Redford K, Bodmer R. 2000. Effect of hunting in source-sink systems in the neotropics. *Conservation Biology* 14: 713-721
- Oates J. 1999. *Myth and Reality in the Rainforest: How Conservation Strategies are Failing in West Africa*. University of California Press, Berkley, USA.
- Ogbaharya D. 2006. *A Capability Theory of CBNRM: the case of Namibia's Communal Conservancy Program*, 2006 International Conference of the Human Development and Capability Association, Groningen, Netherlands.
- Ogier M, Ballo Y, Bitchibaly K, Dakouo F, Diarra S, Kelly B, Maiga A, Senou O. 2001. *Local development and community management of woodlands: experience from Mali*, Intercooperation-Mali programme Sikasso, Mali.
- Ole Petenya Y. 2007. Shompole Group Ranch and Community Tourism Project, Kenya. In *IUCN Review of Communities and their natural resources – Sharing experiences and learning lessons in East Africa*, IUCN
- Oppong S, Danquah E, Sam M. 2008. An update on crop-raiding by elephants at Bia Conservation Area, Ghana from 2004 – 2006. *Pachyderm* 44: 59-64
- Ostrom E. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press.
- Oyono PR. 2004. One step forward, two steps back? Paradoxes of natural resources management decentralization in Cameroon. *Journal of Modern African Studies* 42: 91-111
- Painter T, Sumberg J, Price T. 1994. Your *terroir* and my 'action space': Implications of differentiation, mobility and diversification for the *Approche Terroir* for Sahelian West Africa. *Africa* 64:
- Parnell R. 2006. *Mayumba National Park CARPE Agreement Final Technical Report: October 1, 2003 – September 30, 2006*, WCS / USAID.
- Peskett L, Huberman D, Bowen-Jones E, Edwards G, Brown J. 2008. Making REDD Work for the Poor, Report prepared for the Poverty Environment Partnership. PEP Policy Brief.
- Peterson J. 1991. *A Proto-CAMPFIRE Initiative in Mahenye Ward, Chipinge District: Development of a Wildlife Programme in Response to Community Needs*, Centre for Applied Social Sciences, University of Zimbabwe.
- Plumptre A, Kayitare A, Rainer H, Gray M, Munanura I, Barakabuye N, Asuma S, Sivha M, Namara A. 2004. *The Socio-economic Status of People Living Near Protected Areas in the Central Albertine Rift*. Albertine Rift Technical Reports Volume 4., WCS, IGCP, CARE Uganda, Kampala, Uganda.

- Pourtier R. 1989. *Le Gabon. Tome 1: espace-histoire-societe*, L'Harmattan, Paris.
- Reid H. 2002. *Contractual National Parks: Meeting Conservation and Development Objectives in South Africa and Australia*, PhD Thesis, Durrell Institute of Conservation and Ecology, University of Kent at Canterbury.
- Reid H, Turner S. 2004. The Richtersveld and Makuleke contractual parks in South Africa: Win-win for communities and conservation? In *Rights, Resources and Rural Development: Community-based Natural Resource Management in Southern Africa*, Fabricius C, Koch E (eds.). Earthscan; 223-234
- Ribot J. 2003. Democratic decentralisation of natural resources: institutional choice and discretionary power transfers in Sub-Saharan Africa. *Public Administration and Development* 23: 53-65
- Ribot J. 2004. *Waiting for Democracy: the Politics of Choice in Natural Resource Decentralisation*, World Resources Institute.
- Ribot J. 2006. Choose democracy: Environmentalists' socio-political responsibility. *Global Environmental Change* 16: 115-119
- Ribot J. 2007. Representation, Citizenship and the Public Domain in Democratic Decentralization. *Development* 50: 43-49
- Ribot J. 2008. *Authority over Forests: Negotiating Democratic Decentralization in Senegal*. Representation, Equity and Environment Working paper 36, World Resources Institute.
- Ribot J, Agrawal A, Larson A. 2006. Recentralizing while decentralizing: How national governments reappropriate forest resources. *World Development* 34: 1864-1886
- Rieu L, Assenmaker P, Roulet P. 2007. Perspectives en matière de "gestion sociale" des concessions forestières dans le nord du Bassin du Congo : le cas des filières de viande de brousse dans le Sud-Ouest de la République centrafricaine. In *Gestion participative en Afrique centrale : quatre études de cas*, Assenmaker P (ed.). Université Libre de Bruxelles; 53-100
- Rigava N, Dimbi L, Taylor R. 2006. Participatory wildlife quota setting. *Participatory Learning and Action* 55: 62-69
- Rihoy E, Chirozva C, Anstey S. 2007. 'People are not Happy' – Speaking up for Adaptive Natural Resource Governance in Mahenye. School of Government, University of the Western Cape.
- Rihoy E, Maguranyanga B. 2007. *Devolution and democratisation of natural resource management in Southern Africa: A comparative analysis of CBNRM policy processes in Botswana and Zimbabwe*. Centre for Applied Social Sciences and Programme for Land and Agrarian Studies.
- Robinson EJZ, Bennett EL. 2000. *Hunting for sustainability in tropical forests*, Colombia University Press.
- Roe D. 2008. The origins and evolution of the conservation-poverty debate: a review of key literature, events and policy processes. *Oryx* 42: 491-503
- Roe D, Jones B, Bond I, Bhatt S. 2006. *Local action, global aspirations: The role of community conservation in achieving international goals for environment and development*. IIED, London, UK.
- Roe E. 1998. *Taking Complexity Seriously. Policy Analysis, Triangulation and Sustainable Development*, Kluwer Academic Publishers.

- Roulet P. 2006. *Les concessions de chasse sportive en Afrique centrale. Des domaines de chasse aux zones d'intérêt cynégétique à gestion communautaire*, Programme GEPAC, Union Européenne / Université Libre de Bruxelles.
- Roulet P. 2007. La gestion communautaire de la faune sauvage comme facteur de reconsidération de la privatisation et de la marchandisation des ressources naturelles ? Le cas du tourisme cynégétique en Afrique sub-saharienne. *Afrique contemporaine* 222: 129-147
- Roulet P, Mamang-Kanga J, Ndallot J, Lambert-Ndomba D, Nakoe P. 2008. *Le tourisme cynégétique en République Centrafricaine. Rapport final de la mission du 30 mai au 18 juin 2008*, SCAC Bangui, Ministère des Eaux et Forêts, Chasse, Pêche, Chargé de l'Environnement, République Centrafricaine.
- Rukuni M. 2009. Land, tenure, property rights, governance and prospects for sustainable development in Africa. In *Conference Proceedings on Zimbabwe's Natural Heritage as a National and World Asset: Status, future and role as a binding force for national unity*, European Commission Delegation in Zimbabwe
- Russell A, Dobson T. In press. Chiefs still count: sidelining traditional authorities undermines new approaches to fisheries co-management in Malawi. *Society and Natural Resources*:
- Russell A, Dobson T, Wilson JGM. 2008. Fisheries management in Malawi: A patchwork of Traditional, Modern and Post Modern Regimes Unfolds. In *International Governance of Fisheries Ecosystems: learning from the past, finding solutions for the future*, Taylor W, Schechter M, Leonard N (eds.). American Fisheries Society; 53-98
- Sachedina H. 2008. *Wildlife Is Our Oil: Conservation, Livelihoods and NGOs in the Tarangire Ecosystem, Tanzania*, PhD Thesis, University of Oxford.
- Sachedina H, Nelson F. In press. Protected areas and community incentives in savannah ecosystems: A case study of Tanzania's Maasai Steppe. *Oryx*:
- Sam M. 1999. *The Distribution on Elephants in Relation to Crop Damages Around Bia Conservation Area During the 1999 Raining Season*, Unpublished report.
- Samndong R. 2005. Bushmeat Hunting and Wildlife Management in the Rainforest of Cameroon. *Tropical Ecology and Management* 7:1-7.
- Sanders A. 2007. *Mayumba National Park Outreach Programme*. (<http://mayumbanationalpark.com/downloads/Mayumba%20Outreach%202006-2007%20Year-end%20Report.pdf>). Accessed 08/07/09.
- Schenk M, Effa E, Starkey M, Wilkie D, Abernethy K, Telfer P, Godoy R, & Treves A. 2006. Why People Eat Bushmeat: Results From Two-Choice, Taste Tests in Gabon, Central Africa. *Human Ecology* 34:433-445.
- Schuster B. 2007. *Proceedings of the 4th National CBNRM conference in Botswana 20th – 23rd November 2006 and the CBNRM status report 2006*, Bay Publishing, Gabarone.
- Schwarte C, Hyvarinen J. 2008. *National and international legal frameworks for REDD mechanisms and their relationships with multilateral environmental agreements (MEAs)*, CIFOR, Bogor, Indonesia, Foundation for International Environmental Law and Development (FIELD), International Institute for Environment and Development (IIED), London, UK and World Resources Institute (WRI), Washington D.C., USA.

- Scoones I. 1989. *Patch use by cattle in dryland Zimbabwe: farmer knowledge and ecological theory*. ODI Pastoral Development Network Paper 28b, Overseas Development Institute.
- Scoones I. 1996. Range management, science and policy. In *The lie of the land: challenging received wisdom on the African environment*, Leach M, Mearns R (eds.). James Currey
- Scott P. 1998. *From Conflict to Collaboration: People and Forests at Mount Elgon, Uganda*, IUCN, Forest Conservation Programme, IUCN, Regional Office for Eastern Africa.
- Sekute Community Trust. 2003. *Sekute Community Trust Constitution*.
- Sen A. 2000. *Development as Freedom*, Anchor.
- Senbeta F, Tesfaye K, Woldemariam T. 2007. Matching the Traditional Wild Coffee Management Systems and Biosphere Reserve Approach for Biodiversity Conservation and Sustainable Livelihood of the Local Community. In *Participatory Forest Management (PFM), Biodiversity And Livelihoods In Africa. Proceedings of the International Conference. 19-21 March 2007. Addis Ababa, Ethiopia*
- Shackleton S, Campbell B, Wollenberg E, Edmunds D. 2002. *Devolution and CBNRM: Creating space for local people to participate and benefit?* ODI, London, UK.
- Shackleton S, Shackleton CM. 2004. Everyday resources are valuable enough for community-based natural resource management programme support: Evidence from South Africa. In *Rights, Resources and Rural Development: Community-based Natural Resource Management in Southern Africa*, Fabricius C, Koch E (eds.). Earthscan; 135-146
- Shackleton S, Shackleton CM, Cousins B. 2000. *Re-valuing the communal lands of Southern Africa. New understandings of rural livelihoods*. Natural Resource Perspectives, No. 62, Overseas Development Institute.
- Sitati N, Leader-Williams N, Stephenson P, Walpole M. 2007. Mitigating human-elephant conflict in a human dominated landscape: Challegnes and lessons from Transmara District, Kenya. In *Mitigating Human-Elephant Conflict: Case Studies from Africa and Asia*, Walpole M, Linkie M (eds.). Fauna & Flora International, Cambridge
- Sithole B. 1999. *Use and access to dambos in communal lands in Zimbabwe: Institutional arrangements*, D.Phil. Thesis, Centre for Applied Social Sciences, University of Zimbabwe.
- Sjoholm H, Louno S. 2002. Traditional pastoral communities securing green pastures through participatory forest management. The case of Kiteto District, United Republic of Tanzania. In *Proceedings of second international workshop on participatory forestry in Africa*, UN Food and Agriculture Organisation
- Spinage C. 1998. Social change and conservation misrepresentation in Africa. *Oryx* 32:265-276.
- Sodie E. 1999. *Designing participatory strategies for forest projects in West Africa: Two case studies from Benin*. Rural Development Forestry Network. Network Paper 24e, ODI.

- Stamm V. 2000. *The rural land plan: an innovative approach from Cote d'Ivoire*, IIED.
- Starkey M. 2004. *Commerce and subsistence: the hunting, sale and consumption of bushmeat in Gabon*, PhD Thesis, University of Cambridge.
- Steel L. 2008. *Salonga-Lukenie-Sankuru Landscape. Luilaka River CBNRM Zone: Strategy Document for the Development of a Co-Management Plan*, USAID / CARPE / ICCN / WWF / WCS / La Societe Zoologique de Milwaukee / PACT.
- Stern N. 2007. *The Economics of Climate Change: The Stern Review*, Cambridge University Press.
- Stoner C, Caro T, Mduma S, Mlingwa C, Sabuni G, Borner M, Schelten C. 2007. Changes in large herbivore populations across large areas of Tanzania. *African Journal of Ecology* 45: 202-215
- Stuart-Hill G, Diggle R, Munali B, Tagg J, Ward D. 2006. The event book system: community based monitoring in Namibia. In *Participatory Learning and Action (PLA) Practical Tools for community conservation in southern Africa*, IIED
- Suich H, Child B, Spenceley A. 2009. *Evolution and Innovation in Wildlife Conservation: Parks and Game Ranches to Transfrontier Conservation Areas*, Earthscan.
- Sullivan S. 2000. Gender, ethnographic myths and community-based conservation in a former Namibian 'homeland'. In *Rethinking pastoralism in Africa: gender, culture and the myth of the patriarchal pastoralist*, Hodgson D (ed.). James Currey
- Sunderlin WD, Hatcher J, Liddle M. 2008. *From Exclusion to Ownership: Challenges and Opportunities in Advancing Tenure Reform*. Rights and Resources Institute, Washington DC., USA.
- Sutherland W, Pullin A, Dolman P, Knight T. 2004. The Need for Evidence-based Conservation. *Trends in Ecology and Evolution* 19:
- Swart L, Roskin P, Robinson J. 2004. The problem of the future: sustainability science and scenario analysis. *Global Environmental Change* 14: 137-146
- Symon S. 2006. *Sacred Groves and Conservation* Nineteenth Annual Ford Forum. Imagining Change: Finding Hope in The Twenty First Century, May 2, 2006.
- Tache B, Irwin B. 2003. *Traditional Institutions, Multiple Stakeholders and Modern Perspectives in Common Property: Accompanying Change within Borana Pastoral Systems*, IIED.
- Tagg J, Taylor JC. 2006. PGIS and mapping for conservation in Namibia. *Participatory Learning and Action* 55: 79-86
- TANAPA. 2007. *Annual Report and Financial Statements 2006/07*, Tanzania National Parks.
- Taylor R. 2001. Participatory natural resource management: implications for conservation. In *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation*, Hulme D, Murphree MW (eds.). James Currey
- Taylor R. 2009. The performance of CAMPFIRE in Zimbabwe, 1989-2006. In *Evolution and Innovation in Wildlife Conservation: Parks and Game Ranches to Transfrontier Conservation Areas*, Suich H, Child B, Spenceley A (eds.). Earthscan; 201-222
- Taylor R, Murphree MW. 2007. *Case studies on successful southern African NRM initiatives and their impact on poverty and governance: Masoka and Gairezi case studies Zimbabwe*, IUCN / USAID FRAME.

- Tchamou. 2006. *Sacred forests and community forests at the cross roads for biodiversity in Central Africa. Case study of Cameroon*, MSc thesis, Columbus University College of Liberal Arts and Sciences.
- Terborgh J. 1999. *Requiem for Nature*. Island Press, Washington DC.
- TESFA. 2007. *Newsletter, Volume 1*, Tourism in Ethiopia for Sustainable Future Alternatives.
- Thébaud B. 2002. *Foncier pastoral et gestion de l'espace au Sahel: Peuls du Niger oriental et du Yagha burkinabé*, KARTHALA.
- Thébaud B. 2006. *Le Pastoralisme au Sahel: module d'animation et de formation*, IIED / ARED Senegal.
- Thébaud B, Vogt, Vogt. 2006. The implications of water rights for pastoral land tenure: The case of Niger. In *Land and water rights in the Sahel: Tenure challenges for improving water for agriculture*, Cotula L (ed.). IIED
- Thompson M, Homewood K. 2002. Entrepreneurs, elites, and exclusion in maasailand: Trends in wildlife conservation and pastoralist development. *Human Ecology* 30: 107-138
- Thompson M, Serneels S, Ole Kaelo D, Trench P. 2009. Maasai Mara – Land Privatisation and Wildlife Decline: Can Conservation Pay Its Way? In *Staying Maasai? Livelihoods, Conservation and Development in East African Rangelands*, Homewood K, Kristjanson P, Trench P (eds.). Springer; 77-110
- TIEMPO. 2004. *Making Multilateral Environmental Agreements work for the Poor*, TIEMPO Climate Newswatch.
- TNRF. 2008. *Wildlife for all Tanzanians: Stopping the Loss, Nurturing the Resource and Widening the Benefits. An Information Pack and Policy Recommendations*, Tanzania Natural Resource Forum.
- Toulmin C, Quan J. 2000. *Evolving land rights, policy, and tenure in Africa*, IIED.
- Toure C. 1998. *ACODEP program. Meeting the basic needs of underprivileged populations in Mali: an Antipoverty tool*, World Bank / WBI CBNRM Initiative.
- Turner S. 2004. CBNRM and rural livelihoods. In *Rights, Resources and Rural Development: CBNRM in Southern Africa*, Fabricius C, Koch E, Magome H, Turner S (eds.). Earthscan: London, UK; 44-65
- UNDP. 2008. *UNDP Global Environmental Facility (GEF)/Small Grants Programme (SGP) – Ghana. Biodiversity Conservation and Sustainable Development*, United Nations Development Programme.
- UNEP. 2008. *Implementing MEA's in the decentralised context of Benin*, United Nations Environment Programme.
- van de Berg J. 1998. *Diverging perceptions on the forest: Bulu forest tenure and the 1994 Cameroon forest law, "Acts of Man and Nature? Different Constructions of Natural and Social Resource Dynamics"*, 22-24 October 1998 Bergen, the Netherlands.
- van de Walle N. 2001. *African Economies and the Politics of Permanent Crisis, 1979-1999*, Cambridge University Press.
- Van Vliet N. 2008. *Variabilité spatiale et temporelle au sein du système "chasseur-animal-territoire de chasse villageois" pour une approche géographique de l'estimation de la durabilité de la chasse en Afrique Centrale – cas de Cephalophus spp. du nord-est Gabon*, PhD thesis, University of Toulouse le Mirail, France.

- Vaughan C, Long SA, Katjiua J, Mulonga S, Murphy C. 2004. Wildlife use and livelihoods. In *Livelihoods and CBNRM in Namibia: The Findings of the Wild Project: Final Technical Report of the Wildlife Integration for Livelihood Diversification Project*, Long SA (ed.). Ministry of Environment and Tourism. Windhoek, Namibia
- Vermeulen C, Ouedraogo M. 2003. La zone villageoise de chasse de Sia (Ranch de Gibier de Nazinga, Burkina Faso). Une expérience de gestion communautaire du petit gibier. *Parcs Réserves* 58: 32-44
- Viana V. 2009. *Financing REDD: meshing markets with government funds*. IIED Briefing, IIED.
- Vwirasihikya PK. 2003. UGADEC and community conservation. *Gorilla Journal* 26: 9-15
- Walker B, Abel N. 2002. Resilient Rangelands – Adaptation in complex systems. In Panarchy. *Understanding transformations in human and natural systems*, Gunderson L, Holling C (eds.). Island Press
- WCS. 2006. *Wildlife Conservation Society – Congo Lac Télé Community Reserve Project. Development of Community Participative Management*. Lac Télé Community Reserve, Wildlife Conservation Society.
- WCS Congo. 2009. *WCS Projects: PROGEPP*. Wildlife Conservation Society, Congo. (<http://www.wcs-congo.org/projects/progepp.htm>). Accessed 17/6/2009.
- WCS Gabon. 2008. *Environmental Education and Outreach in Gabon's National Parks*. (<http://www.wcs.org/globalconservation/Africa/gabon/outreach>). Accessed 17/6/2009.
- WDPA. 2008. *World Database on Protected Areas Annual Release 2008*, UNEP, WCMC, IUCN, WCPA.
- Weaver L, Skyer P. 2003. *Conservancies: Integrating wildlife land-use options into the livelihood, development and conservation strategies of Namibian communities*, Vth World Parks Congress of IUCN to the Animal Health and Development (AHEAD) Forum, Durban, South Africa.
- Wehrmann B. 2008. *Land Conflicts: A Practical Guide in Dealing with Land Disputes*, GTZ.
- Wertz-Kanounnikoff S, Verchot L. 2008. How do we monitor, report and verify carbon emissions from forests? In *Moving Ahead with REDD: Issues, Options and Implications*, Angelsen A (ed.). Center for International Forestry Research (CIFOR)
- Western D. 1989. Conservation without parks: Wildlife in the rural landscape. In *Conservation for the Twenty-first Century*, Western D, Pearl M (eds.). Oxford University Press
- Western D. 1994. Ecosystem Conservation and Rural Development: the Case of Amboseli. In *Natural Connections: Perspectives in Community-based Conservation*, Western D, Wright R (eds.). Island Press; 15-52
- Western D, Russell S, Mutu K. 2006. *The status of wildlife in Kenya's protected and non-protected areas*, Kenya's Wildlife Policy Review Team.
- Wilkie DS, Carpenter JF. 1999. Bushmeat hunting in the Congo Basin: an assessment of impacts and options for mitigation. *Biodiversity And Conservation* 8: 927-955

- Williams E, White A, Spenceley A. 2001. *UCOTA – The Uganda Community Tourism Association: A Comparison with NACOBTA*. Pro Poor Tourism Partnership, London, UK.
- Wilshusen PR, Brechin SR, Fortwangler CL, West PC. 2002. Reinventing a square wheel: Critique of a resurgent “protection paradigm” in international biodiversity conservation. *Society & Natural Resources* 15: 17-40
- Winter M. 2000. *Regional programme on the shared management of the common property resources in the sahel*. Natural resource management in Mali: the process of design and the options for the GDRN5 network, SOS SahelGB, NEF, IIED.
- Wolmer W, Ashley C. 2003. Wild resources management in southern Africa: Participation partnerships, ecoregions and redistribution. *Ids Bulletin-Institute Of Development Studies* 34: 31-41
- Woodcock K, Meshack C, Bildsten C. 2006. *Review of TFCG-Facilitated Participatory Forest Management in the Eastern Arc and Coastal Forests of Tanzania*. TFCG Technical Paper No 12, Tanzania Forest Conservation Group.
- Woodhouse P, Bernstein H, Hulme D. 2000. *African Enclosures? The Social Dynamics of Wetlands in Drylands*, James Currey.
- World Bank. 1997. *Republique de Cote d'Ivoire. Projet national de gestion des terroirs et d'equipement rural (PNGTER). Etude d'impact environmental*, World Bank.
- World Bank. 2005. *Implementation Completion Report on a grant in the amount of SDR 4.5 million (US \$7.0 million equivalent) to the Burkina Faso and Republic of Cote d'Ivoire for a West Africa Pilot Community-Based Natural Resources and Wildlife Management Project*, World Bank.
- World Bank. 2008a Africa Development Indicators: 2007. The International Bank for Reconstruction and Development. Washington. USA.
- World Bank. 2008b. *Burkina Faso at a glance*, World Bank.
- World Bank. 2008c. *Project paper on a proposed additional financing in the amount of SDR 13.5 million (US\$ 22 million equivalent) to the Republic of Ghana for the Community Based Rural Development Project*, World Bank.
- WRI. 2005. *The Wealth of the Poor. Managing Ecosystems to Fight Poverty*, World Resources Institute.
- Wunder S. 2005. *Payments for environmental services: Some nuts and bolts*. Occasional Paper No. 42, Center for International Forestry Research.
- Yeye A, Zonou B, Bala S, Amine T. 2009. *Les conventions locales au Burkina Faso: une diversite de pratiques*, IIED, Reussir la Decentralisation, Innovations Environnement Developpement Afrique.
- Zeba S. 1998. *Community Wildlife Management in West Africa*, IIED.

Annex 1: The policy and legal framework for CBNRM in Africa¹

A. Central Africa

Central African Republic

Land: Land policy varies according to the type of land. The *finage* is constituted of land reserve, carrying wood or pastoral areas, where land use rights (for hunting, gathering, pasturing and cropping) of several communities can be applied, with various intensity according to the distance to the different “central places” (settlements or villages) of the concerned communities. The “*terroir*” is a group of crop land (including fields, fallows and forest tillers); it is a part of the *finage* where land use rights are dominant for one defined community (Vermeulen and Carriere, 2001).

Wildlife/protected areas: Conservation in CAR historically government-owned and run, with little community involvement (Mbitikon, 2005). However, three recent, large projects in CAR have changed this; Dzanga-Sanga Special Reserve, the Forest d’Ngotto and the ZCV – community co-managed hunting reserves which buffer two National Parks in the North of CAR – all have levels of community involvement.

Forests: Under the current forest policy, logging permits are provided to mainly international timber companies, which are valid for indefinite periods, and in 2004 86% of forest in CAR was under concession. However, there is a growing shift in CAR from centralised management of timber to multi-use, co-management of natural resources and the country is considered one of the most innovative of the sub-region in the field of forest management (Roulet and Binot, 2008). The 1994 Forest, Wildlife & Fishing law allows for forest co-management with local people (Sunderlin *et al.*, 2008), but this is thought to be weakly enforced.

Chad

CBNRM: Since June 2008, Environmental protection legislation foresees in theory the application of “NRM customary rights” or “CBNRM rights” through decentralisation mechanisms. The transfer of power to the CBOs is supposed to be recorded in a contract between the communities and the concerned decentralised administrative territorial authority (e.g. in the case of community forests). This represents a great progress in Chadian environmental legislation, given that CBOs’ rights in natural resources management had never been legalised before that.

1. The coverage in this annex is incomplete – both in terms of countries and sectors – but reflects the information it was possible to obtain within the time available. Updates are welcomed.

Democratic Republic of Congo (DRC)

Land: Since the 1967 *Bakajika* law, which gave the government ‘full ownership over its domain and full sovereignty to grant rights on land, forests and mines throughout the entire country’, land has been government owned, and management highly centralised (Debroux *et al.*, 2007). However a new decentralised land policy is currently being debated (IUCN, 2007).

Wildlife/protected areas: Only two of DRC’s 74 PAs are designated as community reserves but there are examples of efforts by international conservation organisations to include community participation in PA management, and a number of CCAs have been created. WWF-DRC has recently written a strategy document for the development of a co-management plan for the Luilaka river “CBNRM zone” in Salonga National Park. Other CBNRM zones are proposed at Monkoto and Lotoi-Lokoro.

Forests: The new 2002 forestry code classifies the forests into three types, depending on use: ‘gazetted forests’, which are mainly PAs, ‘permanent production forests’, and ‘protected forests’, which are primarily for local development. The code recognises the rights of local communities to manage their traditional forests, on application to the relevant authorities. It also stipulates that 40% of logging fees must be used for basic community infrastructure (Debroux *et al.*, 2007).

Equatorial Guinea

Wildlife/Protected areas: There is currently no legal framework covering the interests of people living around PAs. However, the new law on PAs (Law n°4/2000 of 22 May 2000) does recognise areas of importance for traditional activities, and village councils and NGOs are now represented within the PAs advisory committees (FAO, 2006).

Forests: Community customary rights recognised by forest legislation. Concept of community forest reserves (*reservas de poblado*) was written into the 1948 forest law (FAO, 2006), with their primary aim being to provide land security and access to resources for forest dwellers. In these areas a form of co-management between the community and the logging company in the area ensues with 70% of the taxes from forest production going towards community projects (FAO, 2006). In April 2006, President Obiang signed an agreement with Conservation International, committing to the establishment of a “CBNRM National Forest”, joining the existing PAs of Monte Alen, Estuario Rio Muni, Altos de Nsork and Piedra Nzaz. The new CBNRM forest will cover 500,000 ha, cancelling the timber concessions that currently exist there (CI, 2006).

Gabon

Wildlife/protected areas: 13 National Parks created in 2002 and designed to fit within a ‘multiple-use’ landscape of different levels of protection and management, including a surrounding buffer zone for the sustainable use of

natural resources by local communities. There are currently no CCAs in Gabon. Because the Parks system is still relatively new, many of these buffer zones are not yet under active management, although many of the Parks have begun to plan and fundraise for buffer zone management and community involvement.

Forests: All forests in Gabon are owned by the state, although rural communities have *usufruct* rights to forest use, and state laws are seldom enforced. The forest code in Gabon has recently been revised and divides the forests into two subsets: the permanent sector, which comprises productive forests (for timber exploitation), and the state-owned rural forest areas, where use is limited to local communities (within 5km of each village), and this includes the potential for community forestry. However, to date no community forests have been established.

Republic of Congo

Wildlife: In four of RoC's 14 PAs there are established community projects: Lac Tele community reserve, Lossi Sanctuary (which was set up at the request of local communities), and Odzala and Nouabale Ndoki National Parks, both of which have community programmes. These are enabled by the new forestry laws which promote participatory management and provide rights over wildlife resources within the forest as well as the forest itself.

Forests: New forest laws in 2000 aim for sustainable, Participation in Forest Management (PFM), with the joint involvement of the public service agencies, the rural public, the private sector and NGOs. The laws recognise *usufruct* rights of local communities and also have provision for community forestry. Communal forests are classified by government decree, and then become the private domain of the community group (FAO, 2006). Forest products of any kind resulting from the exploitation of local community forests are the exclusive property of the community (Bahuchet *et al.*, 2001; Joiris, 1996).

157

B. East Africa

Kenya

CBNRM: There is no unifying CBNRM policy – different resources (land, wildlife, forests) are dealt with separately in different policies and laws which include varying provisions for devolved management.

Land: The 1968 Group (Land Representatives) Act gave formal land title to groups of pastoralists who elected ranch management committees to oversee livestock herding within their specified ranch area. However, subsequently many committees subdivided these ranches into smaller plots awarded to shareholding members, undermining the communal nature of resource management (BurnSilver and Mwangi, 2007). New mechanisms are now emerging to re-establish collective land management units through trusts and associations but the reality is one of limited land security for those residents. Trust lands are subject to periodic threat of recentralisation.

Wildlife: Strict state regulations on wildlife utilisation – especially trophy hunting, which greatly reduces the available economic benefits communities may capture from wildlife and creates disincentives to conserving wildlife on private and communal lands (Norton-Griffiths, 2007). Various reform efforts since the 1980s have not been successful (Norton-Griffiths, 2007), highlighting the prominent role played by international animal welfare organizations active in Kenya in lobbying against reforms that would localize control over wildlife.

Forests: Kenya recently passed a new Forest Act (2005) which provides a greater emphasis on local participation in forest management (PFM), mainly through the co-management of forest reserves by local forest users and government agencies.

Tanzania

CBNRM: There is no unifying CBNRM policy as such, but under the Local Government Act of 1982 villages are entitled to make their own by-laws, which are legally binding as long as they do not violate any state laws. This provides communities with a powerful tool for creating statutory land and NRM rules and procedures at the local level. By-laws passed by communities commonly address issues such as use of natural resources (trees, hunting, grazing), as well as sanctions and fines for those who infringe local rules (Nelson and Ole Makko, 2005).

158

Land: Villages are the basic unit for making local land use and management decisions in Tanzania according to the Land Act of 1999 and Village Land Act of 1999. However, the letter of the law is often disregarded, under the pressure of external interests, and the need for expediency. Formal policies promoting external investment, and continued perception that pastoralist lands are 'empty' or 'unused', result in continued land tenure insecurity for rural communities with a high dependence on natural resources (Mattee and Shem, 2006).

Fisheries: The Fisheries Act (2003) allows for the establishment of Beach Management Units along fresh water coastlines.

Wildlife: In the wildlife and tourism sector, the 1990s were a period of tentatively embracing reforms calling for devolution of greater rights and responsibilities to the local level through the establishment of WMAs. However, since 2000 a range of new regulatory measures have been passed which increase central control over communities' ability to benefit from tourism ventures on village lands (Nelson *et al.*, 2007).

Forests: Despite a history of centralised forest management, since the mid 1990s Tanzania has experimented with community-based forest management, and in 1998 adopted a National Forestry Policy which aims to strengthen the "legal framework for the promotion of private and community-based ownership of forests and trees" (MNRT, 1998). The subsequent Forest Act of 2002 calls for PFM at the lowest possible level of government and provides flexible institutional arrangements for local forest management and ownership including Village Land Forest Reserves (VLFRs), which are managed by villages, as well as Community Forest Reserves (CFRs), which

may be managed by a sub-group of people within the village. This legal and policy framework is very supportive of community management and ownership of forests and has led to the rapid expansion of statutorily recognized local forest reserves (mainly VLFRs).

Uganda

CBNRM: There is no over-arching CBNRM policy – different resources are dealt with in sectoral policies. However, the overall thrust of community involvement in these policies is commonly towards co-management of natural resources (Blomley and Namara, 2003).

Forests: The National Forestry and Tree Planting Act (2001) provided the legal basis for what is termed Collaborative Forest Management (CFM) as well as CBFM (in forest lands outside forest reserves). However, establishing CFM has proven difficult in practice, and has only happened so far in Masindi district. In some cases those applying for CFM want to carry out activities which will always be illegal in state reserves, such as charcoal burning. In this sense there is clearly no transfer of tenure or decision making to the holders of the agreements (EMPAFORM, 2006).

Wildlife: The Wildlife Statute, passed in 1996, provides for collaborative management of natural resources within state PAs such as national parks. Regulated harvesting of NTFPs has been agreed and is active in Bwindi, Queen Elizabeth, Mount Elgon and Kibale National Parks (see Chhetri *et al.*, 2004).

159

Fisheries: The National Fisheries Policy, 2004, provides for the establishment of fisheries co-management and the formation of Beach Management Units (BMUs) – inclusive local institutions, which strengthen the influence of fisheries communities in development planning at the local level. The Fisheries Bill (2004) has yet to be approved by Parliament, however, which means that much of the current co-management is of a somewhat questionable legal basis (see Nunan, 2006).

C. Southern Africa

Angola

Little information available on the legal and policy framework for resource management – community-based or otherwise.

Land: The 2004 Land Law recognizes the rights of communities to land acquired according to customary law. Community titling is underway, and several thousand hectares of land have been titled to San communities (Sunderlin *et al.*, 2008)

Botswana

CBNRM: Unified CBNRM policy recognises the need to develop conservation incentives – particularly for rural communities – in order to obtain increased benefits from natural resources and to improve and diversify community livelihoods.

It provides for revenue from the sale and use of hunting quotas to be used to set up a National Environment Fund (65%) with the 35% balance remaining at the community level. The Fund is intended to ensure a more equitable distribution of wildlife revenues over Botswana, particularly to wildlife poor communities; payment of compensation to persons who suffer loss from wildlife; and to support community investment in ecotourism projects (Schuster, 2007).

Land: Tribal Grazing Land Policy (1975) zoned tribal land into *Commercial Land*, *Communal Land*, *Reserved Areas*, and later, *Wildlife Management Areas*. The TGLP was further reinforced by the National Policy on Agricultural Development in 1991. These policies have been questioned during the last two decades as it has been recognised that equilibrium dynamics and carrying capacities may not apply on semi-arid rangelands (Cullis and Watson, 2004).

Wildlife: 24% of the area of Botswana is designated as WMAs, which are further subdivided into Controlled Hunting Areas (CHAs; Musumali *et al.*, 2007). A WMA is an area where wildlife utilisation and management is the recognised form of land use. In most WMAs, the government has granted local communities the right to use wildlife resources subject to government regulations, such as the requirement to form a trust, to prepare and adhere to a management plan for the area, and the need to apply for a hunting quota (Arntzen *et al.*, 2003).

160

Madagascar

CBNRM: Madagascar's Gestion Locale Sécurisée (GELOSE) programme provides the overarching policy framework for CBNRM. This provides for the devolution of management of a number of renewable resources to rural communities via a series of contracts involving local communities (Communautés de Bases; 'COBA'), decentralised local authorities (communes), and the State department of Water and Forests ('EEF'). However, Kull (2002) notes that Law 96-025 (on local resource management) requires that GELOSE contracts and resource management conform with existing legislation and rules. As a result, resource rights are not always transferred.

Land: The local resource management law of 1996 has reinvigorated customary law, which is now codified in the new tenure legislation enacted in 2005 (Muttenter, 2006).

Forests: A 2001 decree on contractual forestry management (*Gestion Contractualisée des Forêts*; 'GCF') provides for co-management agreements between local communities and the state forest department and is applicable to forest areas within village territories.

Wildlife/protected areas: At the 2003 World Parks Congress the President of Madagascar pledged to extend the total hectareage of PAs from 1.7 million to 6 million hectares through the use of CCAs (Toillier *et al.*, 2008). It is unclear how these new PAs will affect existing COBA areas under the GELOSE system, many of which have struggled to be viable (Hockley and Andriamarovololona, 2007).

Malawi

CBNRM: There is no overarching CBNRM policy – although there is a donor funded national CBNRM programme called COMPASS, which has created a National CBNRM strategic plan (Watson, 2003). In addition, there is a decentralization policy, which is implemented through the Local Government Act, as well as Department of Environmental Affairs guidelines for the Decentralization of Environmental Management (Watson, 2003).

Forests: A 2003 supplement to the 1997 Forestry Act provides guidance on developing co-management agreements between communities and government (Watson, 2003).

Wildlife/protected areas: Policy relating to national parks and wildlife was approved in June 2001, and actions are already being taken in and around several national parks that will provide unprecedented access to natural resources by neighbouring communities (Watson, 2003).

Fisheries: The National Fisheries and Aquaculture Policy has received government approval, and the legislative underpinnings of CBNRM in the fisheries sector have been established (Watson, 2003).

Mozambique

CBNRM: There is no overarching policy for CBNRM.

161

Land: The 1997 Land law provides self identified 'local communities' with land use rights in perpetuity. These rights have the equivalent legal status to private land rights – unlike the differential system that is employed in most countries (Nhantumbo and Anstey, 2007).

Wildlife/Forestry: The 1997 Wildlife and Forestry Policy (implemented through legislation in 1999 and regulations in 2001) provides for communities to receive user rights and management authority over wildlife (Anstey, 2001; Nhantumbo *et al.*, 2003). Anstey (2005) notes, however, that these rights are not as clearly articulated as they are for land.

Namibia

CBNRM: The 1995 policy and 1996 Nature Conservation Amendment Act provide overarching policy framework for CBNRM facilitating the establishment of communal area conservancies (NACSO, 2006). The Ministry of Environment and Tourism's strategic plan to 2011/12 includes a specific objective to develop and support CBNRM.

Land: The end of the colonial era left a complex mosaic of different land tenure arrangements in Namibia. Various land rights initiatives have subsequently been implanted in an effort to resolve disputes and redistribute land to indigenous

Namibians. These include Affirmative Action Loan Schemes (AALS; began in 1991), Resettlement (began with Resettlement Act, 1995), Conservancies (see above), and Communal Registration (began with Agricultural (Communal) Land Reform Act, 2002).

Forestry: Forest Act (Act no 12 of 2001) makes provision for community forestry.

Wildlife: 1996 Nature Conservation Amendment Act provides for communities to acquire rights over wildlife and tourism once constituted as a conservancy.

South Africa

CBNRM: In South Africa “land restitution has been the major driving force for more equitable and participatory forms of natural resource management” (Campbell and Shackleton, 2001). The Communal Property Association Act of 1996 provides the overarching framework for CBNRM, allowing communities to establish legal common property institutions (Collins and Snel, 2008). One unusual mechanism used in South Africa has been contractual parks, whereby community owned land is added to the national PA estate. This can occur through land restitution (e.g. Makuleke land claim), creation of new PAs (e.g. Richtersveld NP) or addition of community land to existing PAs (e.g. Addo Elephant National Park; Child *et al.*, 2004; Reid and Turner, 2004).

162

Wildlife: 1996 White Paper on the Development and Promotion of Tourism promotes the development of private sector, government and community partnership in tourism (Spenceley, 2003).

Zambia

CBNRM: Government documents such as the National Conservation Strategy of 1985, the National Environmental Action Plan of 1994 and the National Parks and Wildlife Policy of 1998 have articulated the need for the involvement of local communities in Natural Resources Management. The Zambian Government has prepared and is now in the process of implementing a decentralisation policy. CBNRM strategies were formulated and implemented in 1988 under the ADMADE programme. The Wildlife Conservation Revolving Fund (WCRF) was created by the Zambian Government to provide a mechanism for ploughing back in GMAs some of the revenues earned from wildlife utilisation by the Department of National Parks and Wildlife Service (NPWS), now Zambia Wildlife Authority (ZAWA). Under the ADMADE, the producer local communities in GMAs retained 35% of the funds generated. The experiences earned during ADMADE led to the enactment of the 1998 Zambia Wildlife Act that makes specific provisions for the participation of local communities in wildlife management through local institutional structures known as Community Resources Boards (CRBs). These receive 45% of hunting fees. Local Communities are expected to utilise these public funds on local community agreed socio-economic development projects such as schools, health centres and feeder roads. Guidelines on the utilisation of

community funds are in place. It was agreed with CRB representatives in 2004 that 45% of their revenues would be spent on wildlife protection, 35% on community projects, and 20% on administration of CRB (ZAWA, 2009).

Zimbabwe

Land: Most good quality farmland is privately owned since colonial era by white farmers. The government launched a Land Reform Process in 2000 to redress perceived inequalities, which is considered to have caused, in part, the subsequent collapse of the economy of Zimbabwe (Child, 2009). CBNRM programmes have focused on the lower-altitude, poor-rainfall areas at the periphery of the country, where 40,000-50,000km² of communally occupied land is adjacent or near to PAs with abundant wildlife (Child, 2009).

Wildlife: The 1975 Parks and Wildlife Act devolved authority for wildlife to private landholders, and in 1982, following amendment, to communal areas. This “sowed the seed for private and community conservation in the region” (Child, 2009). However, appropriate authority was only delegated to the level of RDCs rather than producer wards, with important implications for campfire (Murombedzi, 2001; Murphree, 2005).

D. West Africa

Benin

CBNRM: Benin has the NRMP which makes some provision for CBNRM – including community involvement in forest, watershed and wildlife management. However, it has not been possible to find any updates on the outcomes of these initiatives and whether these provisions remain in the NRMP.

Land: The state has weak authority over land tenure systems in rural Benin, due to limited resources and poor decentralised infrastructure. As a result, traditional community tenure systems are still strong (Edja, 2001). However, as a result of population pressures and land degradation, community land use in Benin is moving from a collective system toward an individual system, where private ownership is the norm (Edja, 2001; Mongbo, 2008). In a bid to deal with the current unsustainable land use practices, the Government is working to strengthen formal community tenure of state lands. The Rural Land Use Plan (2007) is intended to legalise customary land rights in law (Le Meur, 2008).

Forests: Decentralisation of forestry resources was decreed in 1994. Village communities participate in forest management through committees created at various levels, with two representative from the village committees represented at the Management Committee, and two representatives from this committee represented at the Coordination Council. Committees collect fees for the collection of forest products (including timber) and 20% of these fees go back to the village committees and communities. In addition, the committees receive funds to produce and plant tree seedlings each year, creating a buffer zone

between forest and farmland of fast-growing tree species, which are used for timber (Mongbo, 2008).

Wildlife: In two of Benin's national parks, 'W' and the Penjari Biosphere Reserve, communities participate in park management through AVIGREF. This is in no way community-based management of the park's resources, but does allow the village to have their say on park management, and the use of park incomes.

Burkina Faso

Land: The *Programme National de Gestion des Terroirs* (PNGT) first established in 1986 provides the overarching framework for land management. Reorganisation Agraire et Fonciere (RAF; 1991) re-established collective ownership and gives legitimacy to customary institutions over the ruling of land access and use.

Forests: Under the 1997 code *forestier* (Burkina Faso, 1997) forests belong to the state and are divided in 'forets classees' and 'forets protegees'. The former are forests that have been granted a specific status (because they are degraded or subject to particular regeneration initiative) and use is limited to collection of dead firewood and NTFPs; the latter constitute most of the forested cover where agriculture and pastoralism are permitted. It is the state that manages the forests (in accordance with the code) either through forest agents, or through decentralised institutions (province, commune or terroir) that have elaborated a management plan of general interest.

164

Wildlife: Burkina Faso is the only country in West Africa where legislations permits communities to benefit from wildlife hunting (Vermeulen, 2004). In two wildlife reserves in Burkina Faso, Zones Villageoise d'Intérêt Cynégétique (ZOVIC), multi-use zones have been implemented since 2000. In the same way that village forest management associations can be created, wildlife management association have been created in the south of the country (Burkina Faso, 2008; Yeye, 2000).

Cote d'Ivoire

Land: Rural Land Tenure Law (1998) defines ownership rights, regulations for the use of rural land, and mechanisms for the issuing of 'land tenure certificates' (Stamm, 2000). However, less than 2% of the land is formally registered (Stamm, 2000; World Bank, 1997).

Forests: The SODEFOR embarked on a 'forest co-management' strategy in 1994. This set up 'Farmer Forest Committees' within state owned forests. Implementation has been limited (Kesse, 2002).

Wildlife: In 1996, a World Bank funded pilot project, in partnership with the national government, began in North Cote d'Ivoire on community-based resource management (World Bank, 2005).

Ghana

Land: As with many countries in West Africa, Ghana has a pluralistic land tenure system, with local customary systems operating in conjunction with national statutory systems. In 2005 the state owned 22% of the land area in Ghana, with over 70% (mainly rural areas) under allodial (traditional) management (Alhassan and Manuh, 2005). The 1993 Local Government Act provides a framework for decentralisation but many district authorities do not have the funding and logistic support to take on responsibility for land management (Kassanga and Kotey, 2001).

Forestry: As with general land tenure in Ghana, there is a history of government control and regulation of the forest sector, including in the collection and distribution of timber revenues (Ayine, 2008). However, reforms introduced with the 1994 Forest and Wildlife policy provide for co-management agreements between timber companies and communities (Amanor, 2002), while mandatory Social Responsibility Agreements that were introduced by the Government in 1997 entitle communities within and around timber concessions to 5% of the value of the stumpage fee, and other forms of compensation from timber companies (Ayine, 2008).

Wildlife: The Wildlife Division, with UNDP GEF funding has established a CREMA initiative which gives communities authority to control access and harvesting within community forest areas.

165

Mali

CBNRM: A programme of decentralisation initiated in 1991 provides an overarching framework for CBNRM, with local communities invited to participate in reviewing the legislation on land and water management in Mali in 1995 (Ogier *et al.*, 2001). A 1999 government decree makes decentralisation operational.

Land: Land remains legally the property of the state, but the 1999 decree devolves responsibility for land management to local governments who may in turn delegate power to village authorities, interest groups and neighbourhoods that have an established rural management structure (Ogier *et al.*, 2001).

Forestry: Under the decentralisation policy, forests are managed by the local Natural Resource Management Committees, although the state remains the owner of the forest. Regarding timber production, the state works with village communities on state-managed timber contracts, and the village and state share the revenues.

Wildlife: Mali's action towards the CBD's PoW on Protected Areas includes reference to researching the possibility of co-managed or community managed PAs (UNDP, 2008a).

Fisheries: Despite state ownership of fisheries resources, the management of fishing in the Niger Delta still follows the Dina, which is a management system created in the 19th century by the Fulani ethnic group, integrating the traditional systems of existing ethnic groups (Beeler and Frei, 2005). Under the 1991 decentralisation decrees, fishing councils have been set up at regional levels, and management committees set up in villages – but fishermen are under-represented, and have little decision-making power (Kassibo, 2002).

Niger

Land: All land is owned by the state. Niger's Rural Code (1993) recognises customary rights as a legitimate source of land claims through the concept of Terroir d'attache, including land and water rights. It also states that herders have a right to use rangelands in common and that herders can obtain recognition of priority rights on their home areas ("terroir d'attache"; Cotula, 2007). This includes both land and water rights.

Annex 2: Formal CBNRM provisions in Africa

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Angola		2004 Land Law recognizes the rights of communities to land acquired according to customary law (Republic of Angola, 2004)		National Biodiversity Strategy and Action Plan 2007-12 emphasises the importance, rights and roles of local communities in biodiversity management and PAs (Simon Anstey, pers. comm)		
Benin		Rural Land Use Plan set up by decree in 1994, based on Ivorian <i>Gestion de terroirs</i> approach. Draft law voted on in 2007. Confirms customary land rights in law (Le Meur, 2008)		Decentralisation policy since 1989. Very weak in practice (Mongbo, 2008)	Natural Resources Management Project (Programme National de Gestion de Terroirs) piloted in 1992 but still in planning stage (World Bank, 2008a)	All land owned by the state
Botswana	Unified CBNRM Policy under debate in parliament. Proposes 35% of CBNRM returns to be retained by CBOs, 65% to National Environmental Fund (Schuster, 2007)	Revisions to the Tribal Grazing Land Policy (1975) allow for WMAs, subdivided into Controlled Hunting Areas. Can be leased and managed by CBOs who sell hunting quotas and benefit from revenue (Cullis and Watson, 2004)			WMAs, Controlled Hunting Areas (CHAs) and Participatory Forest Management (PFM)	

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Burkina Faso		<i>Reorganisation Agraire et Fonciere</i> (RAF; 1991) re-established collective ownership and gives legitimacy to customary institutions over land access and use (Gray, 2002)			Programme National de Gestion de Terroirs since 1986, entered new phase in 2002 with greater emphasis on land tenure (Hien, 2003)	All land owned by the state
Burundi						No information could be found
Cameroon		2001 order specifies additional community rights to acquire community forests, up to 5000 ha on a 15 year contract (Republic of Cameroon, 2001). 116 community forests granted by 2006 (Tchamou, 2006)			Zones d'intérêt Cynégétique à Gestion Communautaire (ZICGC) in south east Cameroon implement community based management of hunting zones (Roulet, 2006)	All land owned by the state
Cape Verde						No information could be found
Central African Republic		1994 Forest, Wildlife & Fishing law allows for forest co-management with local people. Weakly enforced (Roulet and Binot, 2008)			Zones Cynétiques Villageoise: hunting areas, within which the management committee collects and distributes revenues (ECOFAC, 2008)	All land owned by the state

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Chad	Environmental protection legislation provides for "NRM customary rights" or "CBNRM rights" through decentralisation mechanisms. The NRM transfer to the CBOs is supposed to be recorded in a contract between the communities and the concerned decentralised administrative territorial authority (e.g. in the case of community forests)	Forestry, Wildlife and Fishing resources law (2008), clarifies the 1998 law, setting up general principles in Environmental protection, especially NRM transfer to CBOs through contracts with decentralised administrative authorities	2003 National Poverty Reduction Strategy foresees measures for restoring and protecting natural ecosystems			Effective NRM decentralisation and CBNRM remain weak in 2009. See Republic of Chad (1998, 2000, 2008) for details of laws
Comoros						No information could be found
Congo		Forest Code (2000) introduced decentralised forest management. Communal forests classified by government decree, and become private domain of the community group (Republic of the Congo, 2000)				Very little information could be found, possibly due to history of civil unrest

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Côte d'Ivoire		Forest co-management since 1994. Allows for Farmer Forest Committees in state forests, which can decide on land use and management (Kesse, 2002)	'Rural Land Management and Community Infrastructure Development project' (PNGTER) in development. Will facilitate sustainable management of natural resources (World Bank, 1997)	Rural Land Tenure Law (1998) defines ownership rights, regulations for the use of rural land, and mechanisms for the issuing of 'land tenure certificates' (Stamm, 2000)	Projet National des Gestion de Terroirs et d'Equipement Rural, funded by World Bank, operating since 1989 (World Bank, 1997)	All land owned by the state
Democratic Republic of Congo		2002 Forestry Code recognises the rights of local communities to manage their traditional forests (Debroux <i>et al.</i> , 2007)		New decentralisation policy under debate as of 2007 (IUCN, 2007)		Numerous community managed PAs compared to other Central African states. No overall national programme
Equatorial Guinea	Community forest reserves in 1948 forest law. Primary aim to provide land security and access to resources for forest dwellers (FAO, 2006)				Agreement with Conservation International to establish CBNRM National Forest (Melhman <i>et al.</i> , 2006)	All land owned by the state
Eritrea						No information could be found
Ethiopia					Joint Forest Management across a range of highland forests under central government ownership (Senbeta <i>et al.</i> , 2007)	Little devolution of land rights in national policy. Mostly traditional, often communal, tenure in the south of the country

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Gabon		Forest Code (2001) allows for community forestry. No community forests yet been established (World Bank, 2006). Protected Area law (2000) gives village councils and NGOs representation in PA advisory committees (FAO, 2006)			World Bank establishing collaborative wildlife agreements with local communities in parks buffer zones	All land owned by the state
Gambia		Community forestry concept developed since 1991. Transfers legal ownership of land and trees to local people (Sonko <i>et al.</i> , 2002)				
Ghana		1994 Forest and Wildlife policy provides for co-management agreements between timber companies and communities (Amanor, 2002). Social Responsibility Agreements since 1997 share 5% stumpage fee with communities in and around timber concessions (Ayine, 2008)	World Bank Community Based Rural Development Project supporting decentralisation process since 2004 (World Bank, 2008b)	1993 Local Government Act provided the framework for decentralisation, creating 110 District Assemblies (Kassanga and Kotey, 2001)	CREMAS aim to assist communities to manage wildlife and other natural resources in their own forests. Communities are given the authority to control access and harvesting within the forest. (UNDP, 2008b)	State owns less land than other West African countries. Much land controlled by traditional "stool" leaders

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Guinea		Forest Code law enacted in 1999. Recognises need for collaborative management plans with local population (Republique de Guinee, 1999)				All land owned by the state
Guinea-Bissau						No information could be found
Kenya		Forest Act (2005) allows for Joint Forest Management through the creation of Community Forest Associations (Republic of Kenya, 2005)		Group Land Representatives Act (1968) allowed for collective freehold of Group Ranches in rangelands (BurnSilver and Mwangi, 2007). Most community lands are held as trust lands by County Councils (Karanja <i>et al.</i> , 2002)		Most land in Kenya is privately owned, rather than owned by the state
Lesotho				Sustainable land management provisions in the Land Husbandry Act (1969) widely disregarded (Turner, 2004; Turner and Adams, 2004)		
Liberia		The Protected Forest Area Network Act (2003) states that a Communal Forest is an area legally set aside for the sustainable use of NTFPs by local communities on a non-commercial basis (van der Mark, 2007)				All land owned by the state

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Madagascar	Gestion Locale Sécurise legislation (GELOSE; 1996) devolves management of rural resources to communities via contracts. Followed by 2001 decree on contractual forest management (GCF) (Bertrand and Ratsimbarison, 2004)	Reference to CBNRM (GELOSE & GCF) in the 2nd and 3rd phase of the World Bank funded National Environmental Action Plan (Razafindralambo and Gaylord, 2006)	Specific reference to CBNRM in the Madagascar Action Plan (2006; Republic of Madagascar, 2007)	Decentralization policies abound and are generally favourable to CBNRM (Tom Erdmann, pers. Comm.)		
Malawi		1996 National Environmental Policy, 1996 National Environmental Management Act, 1994 National Environmental Action Plan, 1997 Forestry Act, 1997 Fisheries Conservation and Management Act; and National Environmental Policy (2004) give the Ministers or Directors authority to negotiate co-management or collaborative management agreements with communities (Republic of Malawi, 2007)		A Land Use Planning Policy is under development. Local Government Act will effectively decentralize many CBNRM activities to the District level and significantly increase the role of District Authorities in the management of natural resources	COMPASS programme of USAID (COMPASS, 2009)	No information could be found

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Mali		In 1996 the Unité de Gestion Forestière (UGF) provided for training village committees in forest management, and sharing of revenues from state managed timber contracts (Ogier <i>et al.</i> , 2001). Under the 1991 decentralisation decrees, fishing councils have been set up at regional and village levels (Kassibo, 2002)		1999 government decree decentralised land management to newly created communes and rural councils (Ogier <i>et al.</i> , 2001). ACODEP project supports decentralisation by improving capacity of farmer organisations (Toure, 1998)	The Sustainable Natural Resource Management programme (GDRN) aims to enable the communities with which it works to take responsibility for managing the natural resources in their area (Ogier <i>et al.</i> , 2001)	All land owned by the state
Mauritania				Code Pastoral (2000) supports decentralisation of NRM to villages (GLIN, 2007)	Programme de Gestions Des Ressources Naturelles funded by GTZ	All land owned by the state
Mauritius						No information could be found
Mayotte						No information could be found
Mozambique		Community participation in wildlife management is explicitly endorsed in wildlife and forestry policy (1997), and subsequent regulations (2001), with local communities being identified as principal actors in implementing the policy (Anstey and de Sousa, 2001; Nhantumbo and Anstey, 2007).				

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Namibia	Wildlife Conservation Amendment Act (1996; Amended act of 1975) provided for the creation of community conservancies. These grant usufruct rights over common game species and conditional rights over rarer species (NACSO, 2006)	Forest Act (Act no 12 of 2001) makes provision for community forestry (Republic of Namibia, 2009)	Conservancies are explicit rural development strategy in National Development Plan (NDP182), National Poverty reduction Action Programme; and Vision 2030 (NACSO, 2006)	CBNRM included within National Diploma in Nature Conservation	National CBNRM programme (communal conservancy based) has evolved since 1993 with funding via the WWF LIFE programme (Jones and Mosimane, 2007)	
Niger				Rural Code (1993) recognises customary rights as a legitimate source of land claims through the concept of Terroir d'attache, including land and water rights (Cotula, 2007)	Programme de Gestions Des Ressources Naturelles funded by GTZ	All land owned by the state
Nigeria						All land owned by federal state. No overarching CBNRM or sectoral policies – they vary from state to state (A. Dunn, pers. comm.)

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Reunion						No information could be found
Rwanda						Highly centralised control and very little natural habitat outside PAs. Very limited community management
Sao Tome & Principe						No information could be found
Senegal		The 1993 Forestry code (Code Forestier), allowed participative management of the natural forests, including ownership of trees planted, and management of forests by local Groupement d'Intérêt Economiques (GIEs; Christopherson <i>et al.</i> , 1998). Fees, taxes and fines over forest products return to local management committees (Pierson and Heermans, 2006). According to the new code rural councils will be able to sell rights to cut trees on plots of national domain forest (Ribot, 1995)		In 1997, a decentralization policy was adopted, providing for local communities to create associations (GIEs; Christopherson <i>et al.</i> , 1998; Gaye <i>et al.</i> , 2001). The National Environmental Action Plan (NEAP) (1997) includes CBNRM mechanisms at the Communautés Rurales (CR) level (Christopherson <i>et al.</i> , 1998).		
Seychelles						No information could be found

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Sierra Leone				Land Policy (2005) allows for ownership of land by chiefs and families (Unruh and Turray, 2006)		All land owned by the state
Somalia						No information could be found
South Africa		Communal Property Association Act of 1996 allows communities to establish legal common property institutions which can claim and own communal property (Collins and Snel, 2008)				
Sudan						Comprehensive Peace Agreement (2005) calls for recognition of customary land rights. However, very unclear how this will work in practice, and may not be legally binding
Swaziland						No information could be found

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Tanzania		WMAs provided for in the Wildlife Policy and subsequent WMA Regulations (2003). Forest Policy (1998) and Forest Act (2002) provides for PFM – including ownership and management of forests on village lands (Village Land Forest Reserves, Community Forest Reserves and Private Forest Reserves) as well as the development of Joint Management Agreements for the shared management of reserved forests (National or Local Authority Forest Reserves). The Fisheries Act (2003) allows for the establishment of Beach Management Units along fresh water coastlines. (TNRF, 2009a, b)	National Strategy for Growth and Reduction of Poverty (2005), aims to improve “sustainable use through community-based natural resource management”. The strategy places a strong emphasis on improving local land and resource tenure, increasing local incomes from natural resources such as forests, fisheries, and wildlife (United Republic of Tanzania, 2005)	Local Government Act of 1981 and revisions provide basis for village governments to act as a legal entity and set bylaws. The Village Land Act (1999) provides for establishment of village land and its supervision by village governments. Also allows villages to set aside areas within the village land for communal use such as grazing, forestry or protection of water sources (United Republic of Tanzania, 1999)	The Forestry and Beekeeping Division has a national programme of Participatory Forest Management (PFM) supported by Danida, MFA Finland and World Bank (REF56). A number of NGOs (national and international) are also assisting in the roll-out of this national programme. Wildlife Division, supported by key NGOs such as WWF and AWF, has been supporting the establishment of WMAs (Nelson, 2007) to provide basis for village governments to act as a legal entity and set bylaws. The Village Land Act (1999) provides for establishment of village land and its supervision by village governments. Also allows villages to set aside areas within the village land for communal use such as grazing, forestry or protection of water sources (United Republic of Tanzania, 1999)	All land owned by the state
Togo						No information could be found

Country	Specific CBNRM policy	Explicit reference to CBNRM in sectoral policy(ies)	Explicit reference to CBNRM in development / poverty reduction strategy	Other policy provisions favourable to CBNRM	Major CBNRM initiatives	Comments
Uganda		Wildlife Statute 1996, The Environment Statute 1994, the Constitution 1995 and the wildlife policy indicate that local communities should manage and benefit from resources in their locality. Uganda Wildlife Statute (1996) allows UWA to enter into collaborative arrangements for the management of PAs (Namara, 2006). National Forestry and Tree Planting Act (2001) provides for Collaborative Forest Management and Community Based Forest Management. (EMPAFORM, 2006)	Beach Management Units are referred to in the Poverty Eradication Action Plan (PEAP) of 2005 (Republic of Uganda, 2005)	Major decentralisation process underway, but NRM remains centrally controlled despite the rhetoric (Namara, 2006)	Beach Management Units are being heavily promoted around all major lake bodies including Lake Victoria, where it is being done in collaboration with Kenya and Tanzania (LVFO, 2005; Nunan, 2006)	
Zambia					ADMADE then LIRDP	
Zimbabwe	Amended parks and wildlife act (1975) in 1982 to extend ownership of wildlife enjoyed on free-hold properties to communal land residents (Nelson and Agrawal, 2008)					

Annex 3: The scale of PAs and communally managed areas in African countries

Country	Total area (Km ²)	IUCN 1-6 Protected areas (Km ²)	% Land area in IUCN 1-6 PAs	All Protected Areas ⁱ (Km ²)	% Land areas in all PAs	Land area under community conservation management (Km ²)	% Area under community conservation management
Angola	12552181	82876	6.6	155654	12.4	0 ⁱⁱ	
Benin	116127	13024	11.2	27601	23.8		
Botswana	581163	104665	18.0	179928	31.0		22 ⁱⁱⁱ
Burkina Faso	276404	30331	11.0	39444	14.3		
Burundi	27211	1336	4.9	1336	4.9		
Cameroon	469428	33130	7.1	42287	9.0	11400 ⁱⁱ	
Cape Verde	4148	0	0	0	0		
Central African Republic	624568	77003	12.3	112092	17.9	0 ⁱⁱ	
Chad	1276586	119785	9.4	119785	9.4		
Comoros	1701	0	0	0	0		
Congo	343737	32342	9.4	33682	9.8	4600 ⁱⁱ	
Côte d'Ivoire	324108	20937	6.5	73212	22.6		
Democratic Republic of Congo	2344275	200552	8.6	293106	12.5	0 ⁱⁱ	
Equatorial Guinea	27136	5194	19.1	5194	19.1		
Eritrea	121818	5936	4.9	5936	4.9		
Ethiopia	1135429	201347	17.7	204595	18.0		
Gabon	266041	11791	4.4	39413	14.8	0 ⁱⁱ	

Country	Total area (Km ²)	IUCN 1-6 Protected areas (Km ²)	% Land area in IUCN 1-6 PAs	All Protected Areas ⁱ (Km ²)	% Land areas in all PAs	Land area under community conservation management (Km ²)	% Area under community conservation management
Gambia	10758	258	2.4	258	2.4		
Ghana	240330	11498	4.8	35276	14.7	168200 ^{iv}	
Guinea	246427	426	0.2	16672	6.8		
Guinea-Bissau	34016	1299	3.8	5499	16.2		
Kenya	586770	43443	7.4	67087	11.4		
Lesotho	30495	70	0.2	70	0.2		
Liberia	96634	1095	1.1	17542	18.2		
Madagascar	594717	17893 ^v	3.0	18032	3.0	~ 450000 ^{vi}	
Malawi	118860	10098	8.5	17943	15.1		
Mali	1256684	29371	2.3	30572	2.4		
Mauritania	1046302	5778	0.6	5778	0.6		
Mauritius	2040	90	4.4	91	4.5		
Mayotte	396	9	2.2	9	2.2		
Mozambique	791081	55786	7.0	125525	15.9		
Namibia	827465	114614	13.9	119683	14.5	118,704 ^{vii}	14.4
Niger	1190099	84040	7.1	84040	7.1		
Nigeria	914306	30675	3.4	118040	12.9		
Reunion	2536	402	15.9	402	15.9		
Rwanda	25452	2548	10.0	2548	10.0		
Sao Tome & Principe	987	0	0	0	0		

Country	Total area (Km ²)	IUCN 1-6 Protected areas (Km ²)	% Land area in IUCN 1-6 PAs	All Protected Areas ⁱ (Km ²)	% Land areas in all PAs	Land area under community conservation management (Km ²)	% Area under community conservation management
Senegal	197924	20861	10.5	47688	24.1		
Seychelles	487	204	42.0	204	42.0		
Sierra Leone	72709	1449	2.0	3602	5.0		
Somalia	637990	5244	0.8	5244	0.8		
South Africa	1224384	40863	3.3	84717	6.9		
Sudan	2517975	105412	4.2	105412	4.2		
Swaziland	17336	525	3.0	525	3.0		
Tanzania	947253	212747	22.5	315178	33.3	10079 ^{viii}	0.01064
Togo	57449	4145	7.2	6474	11.3		
Uganda	243145	49734	20.5	59756	24.6		
Zambia	755640	201755	26.7	273134	36.2		
Zimbabwe	392573	50269	12.8	110302	28.1		

Where no other reference is given, all data are drawn from the IUCN World Database of Protected Areas (WDPA, 2008). Data for marine territory and PAs have been excluded as the focus of this report is on terrestrial and freshwater systems. For this table, land area under community conservation management is defined as all formally designated areas which are actively managed by communal institutions, even where they do not have formal title to the land. (i) Includes unclassified forest reserves. (ii) From Sunderlin *et al.* (2008), which gives figures for public forests under communal management and communally owned forests. These figures are combined here. It is possible that non-forest CCAs exist, but the Sunderlin *et al.* figures have only been included here for those countries where this is considered unlikely. (iii) Jones (2004). (iv) This value is based on the statement that over 70% of Ghana is under allodial (traditional) management (Alhassan & Manuh, 2005). It may not reflect legal ownership of the land (v) Madagascar PAs are being rapidly expanded at present so this figure will soon be out of date. Personal Communication from Tom Erdmann(vi) Personal Communication from Tom Erdmann. (vii) NACSO (2007). (viii) Data from MNRT (2008) and Tanzania Wildlife Division, unpublished data. The former includes both community-owned forests and state-owned forests under community management.

Annex references

- Alhassan O, Manuh T. 2005. *Land registration in Eastern and Western Regions, Ghana*. Research report No. 5, DFID.
- Amanor K. 2002. Shifting tradition: forest resource tenure in Ghana. In *The dynamics of resource tenure in West Africa*, Toulmin C, Lavigne P, Traore S (eds.). IIED: London, UK.
- Anstey S. 2001. Necessarily Vague: The Political Economy of Community Conservation in Mozambique. In *African Wildlife and Livelihoods: the promise and performance of community conservation*, Hulme D, Murphree M (eds.). James Currey; 74-87.
- Anstey S. 2005. Governance, natural resources and complex adaptive systems: A CBNRM study of communities and resources in northern Mozambique. In *Confronting the crisis in community conservation: Case studies from southern Africa*, Dzingarai V, Breen C (eds.). University of KwaZulu-Natal.
- Anstey S, de Sousa C. 2001. Old ways and New challenges: Traditional Resource Management Systems in the Chimanimani Mountains, Mozambique. In *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation*, Hulme D, Murphree MW (eds.). James Currey: Oxford.
- Arntzen J, Molokomme D, Terry E, Moleele NM, Tshosha O, Mazambani D. 2003. *Final report of the review of CBNRM in Botswana*. National CBNRM forum, Gabarone.
- Ayine D. 2008. *Social responsibility agreements in Ghana's forestry sector*, IIED.
- Bahuchet S, Grenard F, de Maret P. 2001. *Tropical forests, human forests: an overview*, Avenir des Peuples des Forêts Tropicales.
- Beeler S, Frei K. 2005. Traditional power of the master of the water: continuity and change in the fisheries in the Niger Inland Delta (Mali). *The Common Property Resource Digest* 74.
- Bertrand A, Ratsimbarison R. 2004. Deforestation and Fires: The Example of Madagascar. In *Beyond Tropical Deforestation: From Tropical Deforestation to Forest Cover Dynamics and Forest Development*, Babin D (ed.). United Nations Educational, Scientific and Cultural Organization and the Centre de Coopération Internationale en Recherche Agronomique pour le Développement.
- Blomley T, Namara A. 2003. Devolving rights or shedding responsibilities? Community conservation in Uganda over the last decade. *IUCN Policy Matters* 12: 283-289.
- Burkina Faso. 1997. *Loi n°006/97/ADP du 31 janvier 1997, portant Code Forestier au Burkina Faso*, Ministère de l'Environnement et du Cadre de Vie, Burkina Faso.
- Burkina Faso. 2008. *Décret No. 2008-312/PRES/PM/MECV/MATD/MEF du 9 juin 2008 portant conditions de création et de gestion des Zones Villageoises d'Intérêt Cynégétique*. JO No. 27 du 3 juillet 2008, Ministère de l'Environnement et du Cadre de Vie, Burkina Faso.

- BurnSilver S, Mwangi E. 2007. *Beyond Group Ranch Subdivision: Collective Action for Livestock Mobility, Ecological Viability, and Livelihoods*. CAPRI Working Paper No. 66, International Food Policy Research Institute.
- Campbell B, Shackleton S. 2001. The Organizational Structures for Community-Based Natural Resource Management in Southern Africa. *African Studies Quarterly* 5.
- Chhetri P, Barrow EGC, Muhweezi A. 2004. *Securing Protected Area Integrity and Rural People's livelihoods: Lessons from Twelve Years of the Kibale and Semliki Conservation and Development Project*. IUCN Eastern Africa Programme.
- Child B. 2009. The Emergence of Parks and conservation Narratives in Southern Africa. In *Evolution and Innovation in Wildlife Conservation: Parks and Game Ranches to Transfrontier Conservation Areas*, Suich H, Child B, Spenceley A (eds.). Earthscan.
- Child B, McKean SG, Kiss A, Munthali SM, Jones B, Mtsambiwa M, Castley G, Patton C, Magome H, Pangeti G, Fearnhead P, Johnson S, Chilikusha G. 2004. Innovations in Park Management. In *Parks in Transition, Rural Development and the Bottom Line*, Child B (ed.). Earthscan; 125-164.
- Christopherson K, Rands B, Hadj A, Winterbottom B. 1998. *USAID/SENEGAL. Natural resources management 'limited scope' impact assessment report*, USAID/Senegal.
- CI. 2006. *CARPE USAID final technical report. Monte Alen segment, Equatorial Guinea, Monte Alen – Monte de Cristal Landscape (1) and Maiko Tayna Kahuzi-Biega Landscape (10) Democratic Republic of Congo*, Conservation International.
- Collins S, Snel H. 2008. A Perspective on Community Based Tourism from South Africa: The TRANSFORM Programme. In *Responsible Tourism: Critical Issues for Conservation and Development*, Spenceley A (ed.). Earthscan: London; 85-106.
- COMPASS. 2009. *Community Partnerships for Sustainable Resource Management in Malawi*. COMPASS. (<http://www.compass-malawi.com/default.htm>). Accessed 15/4/2009.
- Cotula L. 2007. *Changes in "customary" land tenure systems in Africa*, IIED.
- Cullis A, Watson C. 2004. *Winners and losers: privatising the commons in Botswana*. IIED & Resource Conflict Institute, London.
- Debroux L, Hart T, Kaimowitz D, Karsenty A, Topa G. 2007. *Forests in Post-Conflict Democratic Republic of Congo: Analysis of a Priority Agenda*, World Bank, CIFOR, CIRAD, AWF, CNONGD, CI, GTF, LINAPYCO, SNV, REPEC, WCS, WHRC, ICRAF & WWF.
- ECOFAC. 2008. *Les zones Cynégétiques villageoises (République centrafricaine)*. (<http://www.ecofac.org/Composantes/ZonesCynegetiquesVillageoises.htm>). Accessed 30/06/09.
- Edja H. 2001. *Land rights under pressure: Access to resources in southern Benin*, IIED.

- EMPAFORM. 2006. *Participatory forest management initiatives in Uganda: Key implementation concerns and recommendations for policy actions*. EMPAFORM policy briefing paper No. 1.
- FAO. 2006. *FAO Forestry country profiles – forest management*, Food and Agriculture Organization of the United Nations.
- Gaye M, Diouf L, Keller N. 2001. *Moving towards Local Agenda 21 in Rufisque, Senegal*. Working Paper Series on Urban Environmental Action Plans and Local Agenda 21, IIED.
- GLIN. 2007. *The Code Pastoral of the Islamic Republic of Mauritania Return to the Sources: Revival of Traditional Nomads' Rights to Common Property Resources*, Global Legal Information Network.
- Gray L. 2002. Environmental policy, land rights, and conflict: rethinking community natural resource management programs in Burkina Faso. *Environment and Planning D – Society and Space* 20: 167-182.
- Hien P. 2003. La dénomination de l'espace dans la construction du Burkina Faso (1919-2001) In *Histoire du peuplement et relations inter-ethniques au Burkina Faso*, Kuba R, Lentz C, Somda C (eds.). Karthala, Paris.
- Hockley N, Andriamarivololona M. 2007. *An economic analysis of Transfert de Gestion in Madagascar: are donors looking for a free lunch?*, Ecoregional Initiatives Program/USAID Madagascar.
- IUCN. 2007. *Réunion d'information et d'échange autour de la loi sur la décentralisation et la gestion forestière*. Kinshasa, 10 October 2007 Centre d'accueil protestant.
- Joiris D. 1996. *Importance des terroirs coutumiers pour la conservation: réflexions à partir du programme ECOFAC au Cameroun, au Gabon, au Congo et en République Centrafricaine*, Actes du colloque panafricain sur la gestion communautaire des ressources naturelles et le développement durable, 24-27 juin 1996, Harare, Zimbabwe.
- Jones B. 2004. *CBNRM, poverty reduction and sustainable livelihoods: Developing criteria for evaluating the contribution of CBNRM to poverty reduction and alleviation in southern Africa*. CASS/PLAAS.
- Jones B, Mosimane A. 2007. *Promoting Integrated Community Based Natural Resource Management as a Means to Combat Desertification: The Living in a Finite Environment (LIFE) Project, Namibia*. USAID.
- Karanja F, Tessema Y, Barrow E. 2002. *Equity in the Loita/Purko Naimina Enkiyio Forest in Kenya: Securing Maasai Rights to and Responsibilities for the Forest*. Forest and Social Perspectives in Conservation, No. 11, IUCN Eastern Africa Programme.
- Kassanga K, Kotey N. 2001. *Land management in Ghana: building on tradition and modernity*, DFID.
- Kassibo B. 2002. *Participatory management and democratic decentralisation management of the samori forest in Babye commune, Mopti region, Mali*, World Resources Institute.

- Kesse M. 2002. Co-Management: A participatory approach to sustainable forests in Côte d'Ivoire. In *The dynamics of resource tenure in West Africa*, Toulmin C, Lavigne P, Traore S (eds.). IIED.
- Kull C. 2002. Empowering pyromaniacs in Madagascar: Ideology and legitimacy in community-based natural resource management. *Development and Change* 33: 57-78.
- Le Meur PY. 2008. *Information on land: a common asset and strategic resource. The case of Benin*. Issue Paper no. 147. IIED.
- LVFO. 2005. *Guidelines for Beach Management Units on Lake Victoria*, Lake Victoria Fisheries Organisation.
- Mattee AZ, Shem M. 2006. *Ambivalence and contradiction: A review of the policy environment in Tanzania in relation to pastoralism*. Issue paper No. 140, IIED.
- Mbitikon R. 2004. Les zones cynegétiques villageoises: Une expérience de gestion participative des ressources naturelles en République Centrafricaine. *Game and Wildlife Science* 21: 219-225.
- Melhman P, Kernan C, Bonilla JC. 2006. *Conservation International CARPE USAID Final Technical Report. Monte Alen Segmet, Equatorial Guinea, Monte Alen – Monte de Cristal Landscape (1) ad Maiko Tayna Kahuzi-Biega Landscape (10) Democratic Republic of Congo*, Conservation International.
- MNRT. 1998. *National Forestry Policy*, Ministry of Natural Resources and Tourism, United Republic of Tanzania.
- MNRT. 2008. *Participatory Forest Management in Tanzania: Facts and Figures*, Forestry and Beekeeping Division, Ministry of Natural Resources and Tourism, United Republic of Tanzania.
- Mongbo R. 2008. State Building and Local Democracy in Benin: Two Cases of Decentralised Forest Management. *Conservation and Society* 6: 49-61.
- Murombedzi J. 2001. Committees, Rights, Costs & Benefits. In *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation*, Hulme D, Murphree M (eds.). James Currey; 244-255.
- Murphree M. 2005. Congruent Objectives, Competing Interests, and Strategic Compromise: Concept and Process in the Evolution of Zimbabwe's CAMPFIRE, 1984-1996. In *Communities and Conservation: Histories and Politics of Community-based Natural Resource Management*, Brosius JP (ed.). AltaMira Press; 105-147.
- Musumali M, Larsen T, Kaltenborn B. 2007. An impasse in community based natural resource management implementation: the case of Zambia and Botswana. *Oryx* 41: 306-313.
- Muttenzer F. 2006. Déforestation et droit coutumier à Madagascar: L'historicité d'une politique foncière. Faculté des sciences économiques et sociales. Université de Genève.
- NACSO. 2006. *Namibia's communal conservancies: A review of progress and challenges in 2005*. Namibian Association of CBNRM Support Organisations, Windhoek.

- Namara A. 2006. From paternalism to real partnership with local communities? Experiences from Bwindi Impenetrable National Park (Uganda). *Africa Development* 31: 39-68.
- Nelson F. 2007. *Emergent or Illusory? Community Wildlife Management in Tanzania*. IIED, London, UK.
- Nelson F, Agrawal A. 2008. Patronage or Participation? Community-Based Natural Resource Management Reform in Sub-Saharan Africa. *Development and Change* 39: 557-585.
- Nelson F, Nshala R, Rodgers W. 2007. The Evolution and Reform of Tanzanian Wildlife Management. *Conservation and Society* 5: 232-261.
- Nelson F, Ole Makko S. 2005. *Communities, conservation, and conflicts in the Tanzanian Serengeti*. Third Annual Community-based conservation network seminar: turning natural resources into assets, Savannah Georgia, forthcoming. (http://sandcounty.net/assets/chapters/assets_chapter_5.pdf). Accessed 27/6/2006.
- Nhantumbo I, Anstey S. 2007. Community Based Natural Resource Management in Mozambique: progressive policy framework but challenging implementation. In Nhantumbo I, Norfolk S, Pereira J. 2003. *CBNRM in Mozambique: a theoretical or practical strategy for local sustainable development? The case study of Derre Forest Reserve*. SLSA Research Paper No. 10: IDS, Brighton.
- Nhantumbo I, Norfolk S, Pereira J. 2003. *CBNRM in Mozambique: a theoretical or practical strategy for local sustainable development? The case study of Derre Forest Reserve*. SLSA Research Paper No. 10: IDS, Brighton.
- Norton-Griffiths M. 2007. How Many Wildebeest Do You Need? *World Economics* 8: 41-64.
- Nunan F. 2006. Empowerment and institutions: Managing fisheries in Uganda. *World Development* 34: 1316-1332. DOI:10.1016/j.worlddev.2005.11.016.
- Ogier M, Ballo Y, Bitchibaly K, Dakouo F, Diarra S, Kelly B, Maiga A, Senou O. 2001. *Local development and community management of woodlands: experience from Mali*, Intercooperation-Mali programme Sikasso, Mali.
- Pierson O, Heermans J. 2006. *Engaging communities from the "roots-up" Using a Participatory Process to Achieve Forest Conservation and Sustainable Use in Senegalese Forests*.
- Razafindralambo G, Gaylord L. 2006. Madagascar: National Environmental Action Plan. In *Sourcebook on Emerging Good Practice in Managing for Development Results: First Edition*, Managing for Development Results; 75-82.
- Reid H, Turner S. 2004. The Richtersveld and Makuleke contractual parks in South Africa: Win-win for communities and conservation? In *Rights, Resources and Rural Development: Community-based Natural Resource Management in Southern Africa*, Fabricius C, Koch E (eds.). Earthscan; 223-234.
- Republic of Angola. 2004. *Lei no. 09/04. 9 November 2004*, Government of Angola.

- Republic of Cameroon. 2001. *0518/MINE F/CAB. December 2001*, Government of Cameroon.
- Republic of Chad. 1998. *Loi No 014/PR/98 définissant les principes généraux de la protection de l'environnement*, Government of Chad.
- Republic of Chad. 2000. *Loi organique No 002/PR/2000 du 16 Février 2000 portant statuts des collectivités territoriales décentralisées*, Government of Chad.
- Republic of Chad. 2008. *Loi No 14/PR/2008 portant régime des forêts, de la faune et des ressources halieutiques*, Government of Chad.
- Republic of Guinea. 1999. *Loi L/99/.. Q13... /An: adoptant et promulguant la loi portant code forestier*, République of Guinée.
- Republic of Kenya. 2005. *The Forests Act*, Government of Kenya.
- Republic of Madagascar. 2007. *Madagascar Action Plan*, Government of Madagascar.
- Republic of Malawi. 2007. *Environmental Policies website*. Government of Malawi. (<http://www.malawi.gov.mw/Policies/EnviromentalAffairs.htm>). Accessed 08/07/09.
- Republic of Namibia. 2009. *CBNRM: Community Forests, Facts and Figures*. Ministry of Environment and Tourism, Namibia. (<http://www.met.gov.na/programmes/cbnrm/forestfact.htm>). Accessed 08/07/09.
- Republic of the Congo. 2000. *Loi N° 16 2000 DU 20 novembre 2000, portant code forestier*, Government of Congo.
- Republic of Uganda. 2005. *Poverty Eradication Action Plan 2005*, Government of Uganda.
- Ribot J. 1995. From exclusion to participation? Turning Senegal's forest policy around? *World Development* 23: 1587-1599.
- Roulet P. 2006. *Les concessions de chasse sportive en Afrique centrale. Des domaines de chasse aux zones d'intérêt cynégétique à gestion communautaire*, Programme GEPAC, Union Européenne / Université Libre de Bruxelles.
- Roulet P, Binot A. 2008. Politiques d'aménagement forestier et approches participatives en République Centrafricaine. In *Gouvernance et environnement en Afrique centrale : le modèle participatif en question*, Arnoldussen D, Binot A, Joiris D, Trefon T, Roulet P, Assenmaker P (eds.). MRAC; 87-112.
- Schuster B. 2007. Proceedings of the 4th National CBNRM conference in Botswana 20th – 23rd November 2006 and the CBNRM status report 2006 in Schuster B, editor. Bay Publishing, Gabarone.
- Senbeta F, Tesfaye K, Woldemariam T. 2007. Matching the Traditional Wild Coffee Management Systems and Biosphere Reserve Approach for Biodiversity Conservation and Sustainable Livelihood of the Local Community. In *Participatory Forest Management (PFM), Biodiversity And Livelihoods In Africa. Proceedings of the International Conference. 19-21 March 2007. Addis Ababa, Ethiopia*.

- Sonko S, Kanimang C, Beck C. 2002. *Why don't they come and discuss together? Community-initiated stakeholder co-ordination on forest fire management in rural Gambia*, Food and Agriculture Organization of the United Nations.
- Spenceley A. 2003. *Managing Sustainable Nature-Based Tourism in Southern Africa: a Practical Assessment Tool*, PhD thesis, University of Greenwich.
- Stamm V. 2000. *The rural land plan: an innovative approach from Côte d'Ivoire*, IIED.
- Sunderlin WD, Hatcher J, Liddle M. 2008. *From Exclusion to Ownership: Challenges and Opportunities in Advancing Tenure Reform*. Rights and Resources Institute, Washington DC., USA.
- Tchamou. 2006. *Sacred forests and community forests at the cross roads for biodiversity in Central Africa. Case study of Cameroon*, MSc thesis, Columbus University College of Liberal Arts and Sciences.
- TNRF. 2009a. *URT Laws*. Tanzania Natural Resources Forum. (<http://www.tnrf.org/taxonomy/term/94>). Accessed 08/07/09.
- TNRF. 2009b. *URT Policies*. Tanzania Natural Resources Forum. (<http://www.tnrf.org/taxonomy/term/66>). Accessed 08/07/09.
- Toillier A, Lardon S, Herve D. 2008. An environmental governance support tool: community-based forest management contracts (Madagascar). *International Journal of Sustainable Development* 11: 187-205.
- Toure C. 1998. *ACODEP program. Meeting the basic needs of underprivileged populations in Mali: an Antipoverty tool*, World Bank / WBI CBNRM Initiative.
- Turner S. 2004. A land without fences: Range management in Lesotho. In *Rights, resources and rural development: Community based Natural Resource Management in Southern Africa*, Fabricius C, Koch E, Magome H, Turner S (eds.). Earthscan: London, UK; 174-181.
- Turner S, Adams M. 2004. *A note on food security and land tenure security in Lesotho*, Southern African Regional Poverty Network.
- UNDP. 2008a. *Supporting country action on the CBD Programme of Work on Protected Areas*. (<http://www.protectedareas.org/files/download/225>). Accessed.
- UNDP. 2008b. *UNDP Global Environmental Facility (GEF)/Small Grants Programme (SGP) – Ghana. Biodiversity Conservation and Sustainable Development*, United Nations Development Programme.
- United Republic of Tanzania. 1999. *The Village Land Act*, Government of Tanzania.
- United Republic of Tanzania. 2005. *National Strategy for Growth and Reduction of Poverty*, Government of Tanzania.
- Unruh J, Turray H. 2006. *Land tenure, food security and investment in postwar Sierra Leone*. LSP Working Paper 22, Food and Agriculture Organization of the United Nations.

- van der Mark S. 2007. *Darwin Initiative for the Survival of Species Final Report: Establishing Community Based Forest Biodiversity Management around Sapo Park, Liberia*.
- Vermeulen C. 2004. La gestion participative de la faune sauvage au Burkina Faso: les expériences du ranch de Nazinga et du parc du W. *Game and Wildlife Science* 21: 313-326.
- Vermeulen C, Carriere S. 2001. Stratégies de gestion des ressources naturelles fondées sur les maîtrises foncières coutumières. In *La forêt des hommes: Terroirs villageois en forêt tropicale africaine*, Delvingt W (ed.). Les presses agronomiques de Gembloux; 109-144.
- Watson A. 2003. *COMPASS Summary Report: 1999-2003*. DAI, Lilongwe, Malawi.
- WDPA. 2008. *World Database on Protected Areas Annual Release 2008*, UNEP, WCMC, IUCN, WCPA.
- World Bank. 1997. *République de Côte d'Ivoire. Projet national de gestion des terroirs et d'équipement rural (PNGTER). Etude d'impact environnemental*, World Bank.
- World Bank. 2005. *Implementation Completion Report on a grant in the amount of SDR 4.5 million (US \$7.0 million equivalent) to the Burkina Faso and Republic of Côte d'Ivoire for a West Africa Pilot Community-Based Natural Resources and Wildlife Management Project*, World Bank.
- World Bank. 2006. *Project Appraisal on a grant from the Global Environment Facility Trust Fund in the amount of US \$10 million to the Republic of Gabon for a strengthening capacity for managing National Parks and biodiversity Project*. World Bank, Washington DC.
- World Bank. 2008a. *Benin at a glance*, World Bank.
- World Bank. 2008b. *Project paper on a proposed additional financing in the amount of SDR 13.5 million (US\$ 22 million equivalent) to the Republic of Ghana for the Community Based Rural Development Project*, World Bank.
- Yeye S. 2000. *Monographie sur la législation environnementale au Burkina Faso*, Ministère de l'Environnement et du Cadre de Vie, Burkina Faso.
- ZAWA. 2009. *Community Based National Resources Management*. Zambia Wildlife Authority. (<http://www.zawa.org.zm/cbnrm.htm>). Accessed 10/07/09.

Natural Resource Issues

IIED's Natural Resource Issues series aims to present timely, easy to read, peer-reviewed material on cross-cutting themes of significance to natural resource sectors, including biodiversity, energy, forests, food and agriculture, land and water. Each issue reviews a selected issue of contemporary importance, describes some original work exploring it, and draws conclusions that are particularly relevant for policy makers, researchers and other protagonists in the field concerned.

Other reports in the Natural Resource Issues Series are available from IIED on request and can be downloaded from www.iied.org:

1. Rural livelihoods and carbon management. 2000. Bass *et al.*
2. Laying the foundations for clean development: preparing the land use sector. A quick guide to the clean development mechanism. 2002. Auckland *et al.*
3. Integrating global and local values: a review of biodiversity assessment. 2002. Vermeulen and Koziell.
4. Local action, global aspirations: The role of community conservation in achieving international goals for environment and development. 2006. Roe *et al.*
5. Towards better practice in smallholder palm oil production. 2006. Vermeulen and Goad.
6. Environment at the heart of Tanzania's development: Lessons from Tanzania's National Strategy for Growth and Reduction of Poverty (MKUKUTA). 2007. Assey *et al.*
7. Fair deals for watershed services in Bolivia. 2007. Asquith and Vargas.
8. Fair deals for watershed services in the Caribbean. 2007. McIntosh and Leotaud.
9. Fair deals for watershed services in Indonesia. 2007. Munawir and Vermeulen.
10. Fair deals for watershed services in India. 2008. Agarwal *et al.*
11. All that glitters: A review of payments for watershed services in developing countries. 2008. Porras *et al.*
12. Fair deals for watershed services in South Africa. 2008. King *et al.*
13. Fair deals for watershed services: Lessons from a multi-country action-learning project. 2009. Bond and Mayers.
14. Creating and protecting Zambia's wealth: Experience and next steps in environmental mainstreaming. 2009. Aongola *et al.*
15. Tenure in REDD: Start-point or afterthought? 2009. Cotula and Mayers.
16. Incentives to sustain forest ecosystem services: A review and lessons for REDD. 2009. Bond *et al.*
17. Water ecosystem services and poverty under climate change: Key issues and research priorities. 2009. Mayers *et al.*

To contact IIED regarding the Natural Resource Issues series please email the Series Editor, James Mayers – james.mayers@iied.org or the Series Coordinator, Nicole Armitage – nicole.armitage@iied.org

Community management of natural resources in Africa: Impacts, experiences and future directions

In many parts of Africa, local communities have depended on, and managed, wildlife as a key resource since the Stone Age. Over the last twenty years, this subsistence strategy has evolved into a development strategy that has become increasingly formalised as “community-based natural resource management” (CBNRM), combining rural development, local empowerment, and nature conservation.

Led by new ideas about the merits of decentralized, collective resource governance regimes, and creative field experiments such as Zimbabwe’s CAMPFIRE, these community-based approaches evolved in a wide range of ecological, political, and social contexts across Africa. This review provides an unprecedented pan-African synthesis of CBNRM, drawing on multiple authors and a wide range of documented experiences from Southern, Eastern, Western and Central Africa. The review discusses the degree to which CBNRM has met poverty alleviation, economic development and nature conservation objectives. In its concluding chapter, the report suggests a way forward for strengthening CBNRM and addressing key challenges in the years ahead.

The views expressed in this study do not necessarily represent those of the institutions involved.

Natural Resource Issues No. 18

ISBN: 978-1-84369-755-8

ISSN: 1605-1017

